

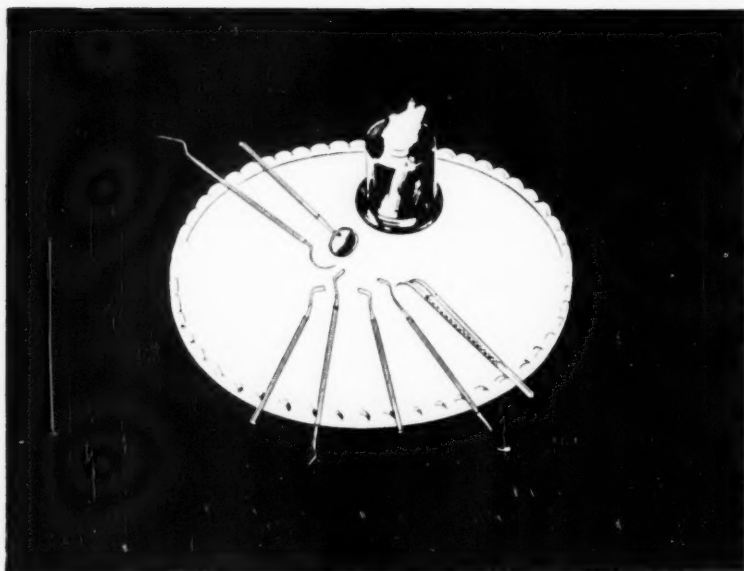


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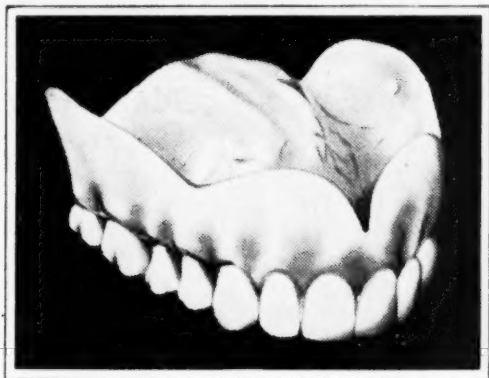
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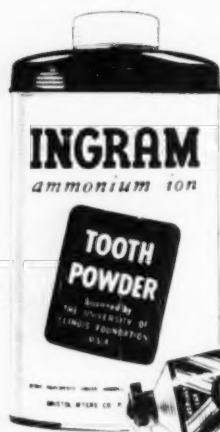
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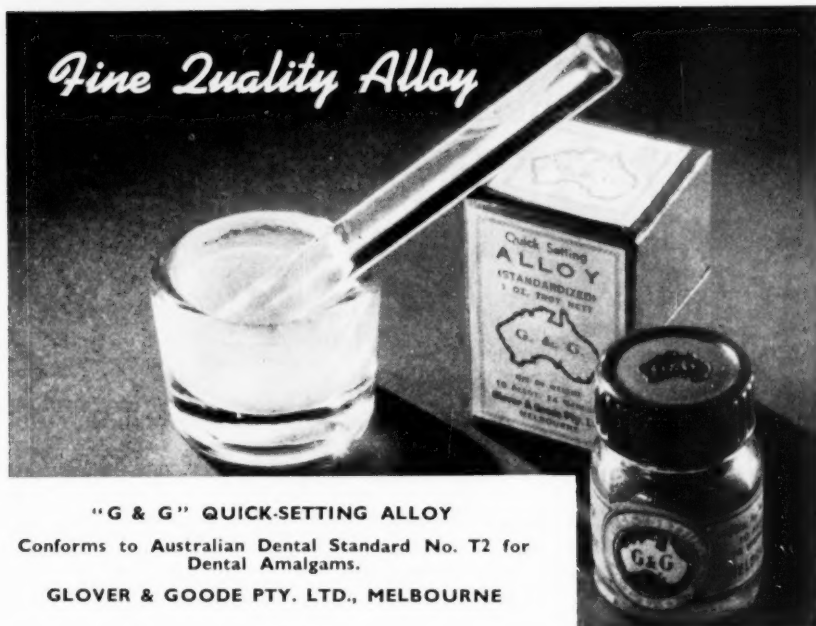
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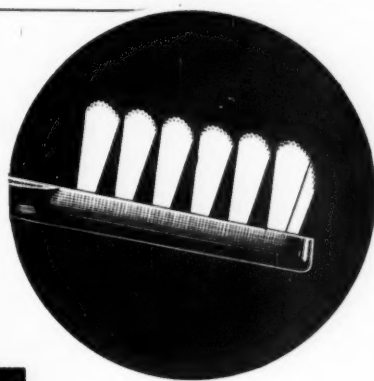
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Partial Dentures—Rebasing the Saddle Supported by the Mucosa and Alveolar Bone*

John H. Wilson, D.D.Sc.†

Rebasing of the Class II saddle (the mucosa and alveolar element) is probably the most neglected aspect of a partial denture service. A frequent clinical experience is to find the patient without functional efficiency in this site because of "settling" of the denture saddle. At least three causative factors are involved:

- (1) The magnitude and direction of forces of mastication.
- (2) The character of the support available.
- (3) The consideration and treatment given the edentulous area in respect to (1) and (2) during the design and construction of the restoration.

Masticatory efficiency and comfort will be influenced greatly by a wise selection of occlusal loading, by making the best use of the available support to sustain the loading and by a proper overall stabilisation of the denture. Some morphological variations in ridge types and their good and bad use are shown in figures 1 and 2. Malocclusions with adverse effect upon ridge comfort and resorption are seen in figures 3, 4, 5, and 6. These illustrations are not an exhaustive explanation of a very large subject involving occlusion and denture stabilisation but they indicate that many gross resorptions may have been prevented had more attention been given to the causes. Preventive dentistry has great opportunities in the prosthetic field. Such studies as stress and the physiological toler-

ance of living tissue, peculiar to each mouth, must be most carefully assessed by the dentist when he designs the partial denture in accordance with the examination made of the mouth.

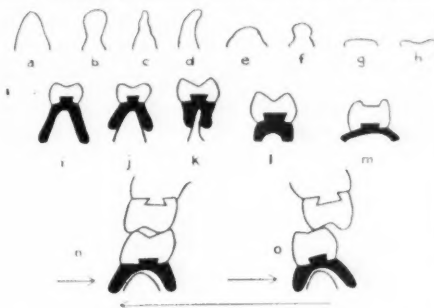


FIG. 1.—RIDGE AND DENTURE BASE RELATIONSHIPS.

- (a) Favourable ridge formation;
- (b), (c), (d) Some forms of horizontal bone resorption;
- (e), (f), (g), (h) Various degrees of both horizontal and vertical resorption;
- (i) Correct use of available saddle support and an appropriate occlusal loading;
- (j), (k) Wrong use of support, little resistance to the horizontal and oblique components of the forces of mastication. Associated occlusal overloads accelerate resorption;
- (l) Advanced resorption of a ridge, wrongly treated with occlusal overload and marked tooth cusp inclines, adverse effect upon denture stability and ridge comfort. Result, if patient perseveres, is resorption due to tissue trauma;
- (m) Broad, flat ridge, best treated with modified cusp or non-anatomical tooth forms which reduce the magnitude of oblique forces during mastication and accompanying tissue resorption;
- (n) and (o) Tooth relationships with mandible in left working bite position. At (n), resistance to saddle displacement is on the buccal aspect of the ridge. On the balancing side, at (o), displacement is resisted by the lingual bone. When working and balancing sides are functionally reversed, so are the pressure areas upon the ridges.

*Abstract from a post-graduate course in Partial Denture Construction given at the University of Sydney, 1952.

†Lecturer in Prosthetic Dentistry, University of Sydney.

Despite professional use of all present knowledge, resorption beneath a Class II saddle occurs, in various degrees, for reasons beyond the scope of this paper. For clarity, the following thoughts are confined to rebasing the Class II saddle immediately after processing i.e., as a final phase of denture construction. The ideas apply also to dentures which after use have lost some occlusal contacts recoverable by rebasing. Gross occlusal dysfunctions mean more complex treatment, perhaps complete reconstruction of the denture and with this we are not concerned.

Considerable clinical variation occurs in the type of mucosa in Class II saddle areas. It may be tense or yielding, thin or thick. Whatever the description, the modern impression materials, hydrocolloid or alginate, when properly used, will record the mucosa in a state of rest or nearly so. Because of the fine detail and accuracy given by these materials it is not a disadvantage to accept a rest position of the soft tissues. A passive state of the mucosa is preferable in an impression technique. It is a position of the tissues more within the control of the prosthetist. Furthermore, when using a plaster wash on a reduced Class II bite rim, registration of centric occlusion is taken at zero pressure and some occlusal errors thereby prevented by a controlling factor common to both the impression and registration of the occlusion. However,

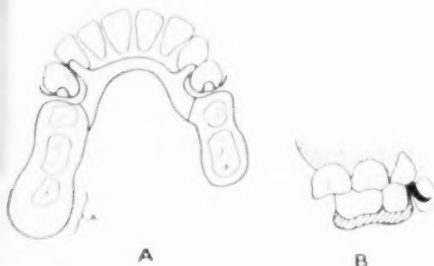


FIG. 2.—SADDLE OUTLINE AND OCCLUSION.

(A) On the right side poor use is made of the available support. Tissue covering on the left side is correct. Occlusal loading is controlled by varying the number of artificial teeth used and their bucco-lingual width. The distal area of the saddle, (A), must be reserved for a secondary stress-bearing role. Primary stress-bearing is confined to the premolars and first molar. To use all the available ridge support for primary masticatory loading invites gross tissue resorption and challenges denture stability.

(B) Illustrates the association of large artificial teeth on a small denture base opposed by natural teeth. These are the most favourable circumstances for resorption of the supporting tissues. Rebasing of the saddle will not compensate for disregard of some of the major causes of ridge resorption. Even with the most thoughtful denture construction, natural teeth opposing a Class II saddle often has a relatively poor clinical prognosis.

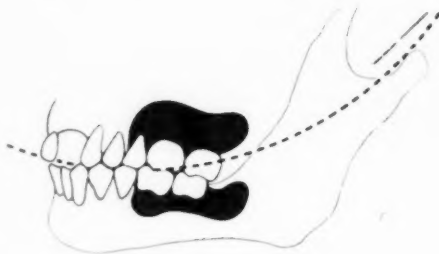


Fig. 3.

Mechanical replacement of teeth without regard to human anatomy. The laws of articulation are of utmost significance because they can determine whether or not the relation of the dentures to living tissue is traumatic or physiologically acceptable.

Before rebasing the saddle, correction of an existing malocclusion is an essential. Failure to do this will only lead to the need for further rebasing.

when a denture is processed and processing errors of the occlusion are corrected, it will be found that the Class II area of the denture, constructed for the rest position of the tissues may be quite unsatisfactory when the denture is in function. This happens particularly if the soft tissues have a significant range of displacement. Where the tissues are tense and taut and thinly cover the underlying bone there will be little if any clinical evidence of saddle (or tissue) displacement, whether the occlusal pressure be light or heavy. A simple and convenient way of making this test is to insert a fine metal spatula between the teeth when they are in centric occlusion. Resistance, or lack of it, to separation of the occlusal contact by the spatula blade gives some idea of the movement of the tissue beneath the denture base.

To the question—"Should all Class II saddles be rebased?", the answer is "Yes." All bases benefit by proper rebasing under a functional loading, irrespective of the degree of tissue displacement. The fact that a saddle may show little visual evidence of movement under pressure does not necessarily mean *all* the relevant area of the edentulous ridge is contributing to the support of the saddle. It is highly desirable that every part of the edentulous area should function in a way befitting its qualifications. This reduces the risk of some sites working beyond their stress-bearing capacity while others, perhaps better endowed, have no work to do at all. Terms like "functional loading" are used in prosthetic literature with familiarity if not with definition. A clinical attempt will be made to interpret these terms which no doubt are synonyms. It will be argued that rebasing, in the interests of

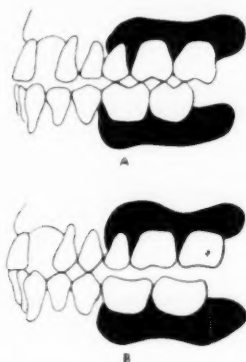


Fig. 4.—Some occlusal disharmonies of partial denture prosthesis contributing to alveolar bone resorption:

(A) Loss of balanced occlusion in protrusion due to discord between cusp inclines. All occlusal stress is on the denture.

(B) All occlusal stress in protrusion taken by the natural teeth whose cusp inclines are greater than those of the artificial teeth selected. No increase has been given to the prominence of the compensating curve.

control, has to be post-constructional and that it is an important part of denture design because the Class II saddles should conform to some functional position of the supporting tissues. Comfort and efficiency of the partial denture are logical objectives in favour of the argument.

Sears¹, discussing the rebasing of full dentures, has emphasised two major problems:

- (1) The preservation of centric occlusion.
- (2) To control adaptation of the base to the tissues.

With this there is complete agreement. Rebasings means some pressure but not indiscriminate pressure upon the supporting structures. A maximum limit to a rebasing pressure upon the soft tissues is that which leaves undisturbed the occlusal relationships. Should the yielding tissues be so far displaced as to cause, upon resuming their position, a premature occlusal contact (assuming the retainers are free enough to allow for this) then such tissues, in the author's opinion, have been over-displaced, if not traumatised. Value has to be given now to the other end of the functional range. What constitutes insufficient displacement of the soft tissue? This is indicated by too much movement of the saddle under biting pressure, resulting in masticatory inefficiency, bad effects upon stability and torsional strains on supporting teeth and denture parts. How then is this to be rectified? Again it is controlled pressure.

As with full denture construction comparatively little pressure should be exerted upon

the soft displaceable tissue, because this, when pressure is released, tends to resume its original position. Sluggish flowing impression materials should therefore not be used. It is better to use one of the rebasing waxes (painting on method) or a mix of oil resin paste, of moderate flow, upon the denture base the peripheral margins of which have been checked for good adaptation. When the wax or oil resin appears to have the desired flow the patient closes gently into centric occlusion. Where the tissue contact thins out the rebasing medium, to disclose parts of the denture base, part of the base material is removed for convenience with a round bur (No. 10), to a depth of about a millimetre. The denture base over a sharp ridge is relieved in the same way so that less pressure will be sustained at this site. Pressure areas having been treated, the tissue side of the base is once more filled with oil resin or wax, of thinner consistency, and biting pressures are again lightly recorded. When the impression material has hardened, a thin spatula is inserted between the occlusal surfaces of the teeth on the saddle. If, without opening centric occlusion relationship, the saddle can be displaced just sufficiently to accommodate the thickness of the spatula, say $\frac{1}{32}$ in., then such should constitute a workable degree of "functional displacement." A further lining may be required. The position therefore is that rebasing has been insufficient to disturb centric occlusion and yet when the

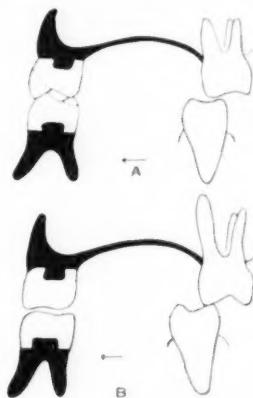


Fig. 5.—Occlusal disharmony in left working bite jaw position:

(A) Artificial cusps too steep compared with natural cusp inclines. Traumatic occlusion in saddle areas produces a large horizontal stress component of destructive influence.

(B) Artificial cusps too flat resulting in loss of occlusal balance and functional efficiency.

More and more chewing and pressure upon the supporting ridge is necessary to perform a given amount of work, if such is ever accomplished. Bone resorption is increased.

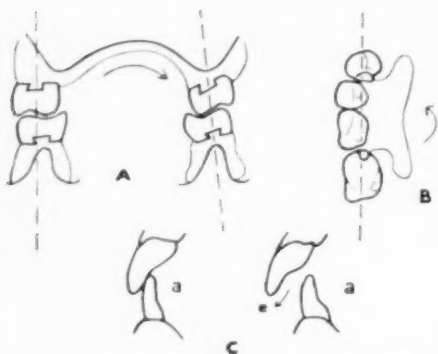


Fig. 6.—Some common tooth and ridge relationships favouring tissue resorption:

(A) In centric occlusion teeth on the left side are set buccally to the centre of the ridges. This causes a clockwise rotation of the denture base unless prevented by an opposing force created elsewhere in the denture-mouth relationship.

(B) Teeth again not over the centre of the ridge. Occlusal stress is unnecessarily transmitted to the bone supporting the abutment teeth.

(C) Replacement of incisor teeth with adverse steep incline guidance. Stress transferred to the periodontal structures can be reduced considerably by giving an overjet (e) when arranging the teeth.

teeth close upon a metal spatula the displacement of the Class II saddle is slight and with these advantages:

- (1) A reduction of leverage or torsional strain upon the abutment tooth, the stress-breaker and other parts of the denture.
- (2) When at rest the contact of saddle base with mucosa is not one of maximum tissue displacement and therefore nutritional and physiological factors should not be impaired. Maximum pressure use of the soft tissues is intermittent and such is perhaps as much as can be achieved. The claim that intermittent pressures upon the mucosa and alveolar bone are beneficial has not been the experience of the author. They are however decidedly preferable to constant pressures upon the bone which finally makes the adaptations.

Vague phraseology such as "functional compression" is merely loosely descriptive because what it hopes to describe varies from one type of food bolus to another. When thought is given to the many magnitudes and directions associated with masticatory forces, it will be seen that the optimum functional contact of tissue with denture base can be realised for only one particular pressure and for one particular direction of application. All other relationships are functional approximations. However any limitations to rebasing are exceeded by the advantages.

Surgical preparation of the ridges, when indicated, can reduce the difficulties met in a rebasing technique. Whatever rebasing method is favoured it should aim to achieve support equilibrium between displaceable and non-displaceable tissue, a very ambitious if not impossible task when related to functional conditions which are anything but constant. By the reduction of excessive bony prominences and by the excision of flabby, mobile soft tissues, surgical preparation can assist greatly in simplifying a rebasing technique and at the same time promise better results.

Because of the plasticity of bone and its relatively poor tolerance to pressure, the relationship between saddle and tissue support is ever changing. And although these changes are slow in some cases and more rapid in others, due to many reasons, some of which have been mentioned, there is only one safe clinical attitude and that is to regard the Class II saddle as requiring regular dental supervision. The loss of occlusal contacts, the irritation of tissues by lingual and palatal bars or peripheral saddle soreness, are all common clinical experiences. Rebasing is the usual procedure for recovering lost denture and tissue relationships if such are not too far advanced to be retrieved by a rebasing technique.

A one-time rather prominent feature of prosthetic practice was a sequence of post-constructional adjustments to a Class II saddle even in the presence of what appeared a safe occlusal loading and articulation. By a series of reductions, with ulcerations as the guiding signs and comfort as the objective, the denture base was either corrected or ruined and the psychological damage to the patient's co-operation became difficult to repair. It is imperative therefore that the denture base be related to a controlled functional state of the supporting tissues. Effective attempts at securing functional displacement of the soft tissues would have to record the functional pressures in:

- (1) Centric occlusion.
- (2) Eccentric occlusion.

For the latter a "chewing in" method should be adopted with a functional range of 2-3 m.ms., provided the patient has the muscular co-ordination to perform controlled eccentric movement of the mandible. Only when the tissues have used the impression material for their own functional positions will the prognosis for Class II saddles be the better for rebasing. Obviously, rebasing is but one aspect of the problem of functional comfort and efficiency in the Class II denture restoration.

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Post-Operative Treatment and Complications in Relation to Oral Surgical Procedure*

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INTRODUCTION.

Descriptions of techniques for oral surgical procedures are comparatively plentiful when considered in relation to post-operative treatment for patients having surgical operations performed in the mouth, and it was on this account, and the realization of the importance of the subject, that it was chosen for this paper.

Those practising the speciality of Oral Surgery have patients referred to them from time to time in urgent need of specific post-operative treatment; the impacted tooth was removed successfully, or the cyst was enucleated in a like manner, but the operator did not complete the treatment because he did not possess a knowledge of the patient's full requirements, either for the relief of severe pain or use of chemotherapy. It is evident, therefore, that there must be a balance between surgical technique and post-operative treatment and the former should be performed only with a complete realisation of the responsibilities of the latter.

On making a study of this subject one is impressed by the means which are at one's disposal for making the post-operative course smooth and free from the undesirable sequelae which were serious problems to oral surgeons ten to fifteen years ago. The introduction of new and more efficient analgesics and hypnotics and the use of powerful and reliable antibiotics reported in the medical and dental literature are but a few examples, not to mention the physiological substances that are being used today for wound dressings. However, these things will be dealt with more fully in their turn. A review of the subject will be made according to the following headings:—

1. Inflammation and Repair.
2. The Prevention of Complications—Surgical Technique.
3. The Control of Pain—Analgesics.
4. The Control of Haemorrhage—Haemostatics.
5. The Control of Infection—Antibiotics.
6. Other Complications.

7. Wound Dressings.

8. Conclusion.

1. INFLAMMATION AND REPAIR.

Inflammation is the reaction of the tissues to an injurious agent or irritant, which may be physical, chemical, or bacterial, and according to Boyd¹ "the commonest physical irritant is trauma, which includes the knife of the surgeon."

In making a clinical examination of a wound, the observant surgeon will readily recognize the macroscopic features or manifestations indicative of healing by first or second intention, but it is necessary that his knowledge should be wider than this, and an understanding of the minute processes of inflammation and repair as seen under the microscope will guide him more accurately in the treatment of the wound.

This paper is submitted with the object of being of some practical benefit to those interested in Oral Surgery; therefore, the descriptions in regard to these processes must be brief. The subject of repair of tissue after injury will receive the most attention.

The healing of a wound will be studied according to two prevailing conditions: (1) with loss of substance; (2) without loss of substance. An example of the first case is the healing of the alveolus after tooth extraction, and in the second case the healing of a clean incision through tissues, such as the mucoperiosteum covering the mandible or maxilla.

The healing of a wound after tooth extraction with loss of substance.

The first step in the process is the filling of the socket with blood clot the undisturbed formation of which is of prime importance. (Hence the advantage of protecting a new wound with a sterile gauze pad immediately following surgery in the mouth.)

The next step is the organization of the blood clot by the invasion of new capillaries and fibroblasts, which originate from the vascular system and connective tissue cells in the surrounding tissues. Boyd² says that the "fibroblastic proliferation is the most striking feature of the process of repair," and he states further that "in the embryo the fibroblasts form an actively growing tissue, but in the adult they are in a resting condition, for

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they need for their multiplication substances which are not present in the lymph and blood streams. When grown in embryonic juice they again become active . . . This embryonic activity is also resumed in inflammatory tissue, for the fibroblasts can now feed on the substances liberated by the degenerating leucocytes and macrophages."

"The new vascular connective tissue which grows into the blood clot from the surrounding tissues is called granulation tissue, and in a healthy wound makes its appearance within three days."³

A granulating surface presents a most efficient barrier against bacterial invasion. It is, however, easily injured, for the granulations are delicate, and the young epithelial cells struggling to gain a footing on the new surface are easily dislodged. The interfering and too vigorous swab, the over frequent change of dressings, the stream of strong antiseptic may do more harm than good. Free drainage should be provided for the escape of any discharge, and the granulating surface should be protected, but nothing should be done to interfere with that remarkable tendency to heal which is present in all healthy tissue.⁴

The granulation tissue permeates the entire clot and absorbs the clot as it advances by phagocytic activity. Amongst the connective tissue cells in the newly formed granulation tissue osteoblasts gradually appear, which have originated from the mature bone of the alveolus. The osteoblasts are said to lay down a fibrillar ground substance between the other cells, and this newly formed matrix is called osteoid tissue.

The next step in the process is the calcification of the osteoid tissue, which is then termed "a callus." In the early stages of repair the callus is laid down without any regular pattern, but as the process advances the structure becomes more regular, until finally it assumes the appearance of normal adult bone.

On radiographic examination, "the socket remains visible as a 'defect' in the bone for many months, although histologic investigations have proved that it is filled by bone in the second month. This discrepancy is the result of radiolucency of the immature coarse-fibrillar bone filling the socket."⁵

Another quotation from Weinmann and Sieher⁶ would not go amiss in emphasizing the absolute necessity on the part of the oral surgeon of making strenuous efforts to maintain a healthy blood clot in any wound.

The formation and undisturbed organization of a blood clot are of prime importance. The blood clot can be regarded as a perfect culture medium for the proliferating cells of the young connective tissue which invade it in the very first days after the extraction. At the same time, the clot serves to protect the more or less exposed surface of the bony socket. Failure of formation or early removal of the blood clot leads to complications in the healing of the socket. In such a condition, which is known as "dry socket," areas of the denuded alveolar bone necrotic and are slowly eliminated by undermining resorption. During this time, the condition of the alveolar bone suggests localized inflammation. The filling of the socket takes a long time because the proliferating granulation tissue is exposed to insults of chemical, mechanical, and bacterial nature. The dry socket is always characterized by excessive pain of long duration.

Healing of a clean incised wound with no loss of tissue.

In this case there is no granulating surface, but nevertheless the young vascular connective tissue or granulation tissue forms the principal feature. "Into the slit-like gap made by the knife, blood plasma and whole blood are poured, which on clotting furnish the fibrin network that forms the scaffolding for the repair builders. Once more the capillary loops and young fibroblasts first use and then replace the scaffold, the capillaries absorbing any debris to be removed, and the fibroblasts 'sewing together' the opposing surfaces.

"The time required for complete repair will depend on a number of factors, of which the amount of tissue destruction and the degree of asepsis are the most important. The presence of bacteria will retard and may completely prevent the process. It is evident that it is impossible to give an estimate of the time required for a wound with loss of substance to heal, but the following table will give an indication of the approximate times of the various stages of the healing process in the case of an incised wound.

HEALING AN INCISED WOUND.⁷

End of 12 hours:	Vascular and connective tissue reaction begins.
End of 2nd day:	Granulation tissue begins.
End of 4th day:	Temporary clot replaced by granulation tissue.
End of 5th day:	Epithelium covers narrow wound. Definite fibrils appear.
End of 3 weeks:	Dense non-vascular scar tissue is formed."

TABLE I.

2. THE PREVENTION OF COMPLICATIONS.

There are numerous major and minor complications which are apt to occur after any surgical procedure, but there are three principal ones which demand special consideration, because in the absence of careful planning, one or all of them may develop.

These complications are:—(a) pain, (b) haemorrhage, and (c) infection.

On the first consultation with the patient, the taking of a clear, concise, and relevant history may give valuable information, such as the occurrence of unusual bleeding after a previous operation, the presence of a dietary deficiency, or information regarding past or present illnesses. The clinical examination is also of utmost importance, and the findings should be entered on the patient's chart and brought to notice on subsequent visits.

Special examinations should be made according to requirements, such as radiographic surveys, biopsies, and bacteriological examinations; or a consultation with a physician or

other specialists may be in the interests of the patient, and be responsible for the prevention of numerous untoward sequelae.

The importance of preoperative oral hygiene cannot be emphasized too strongly for patients about to undergo operations in the mouth. In some cases it may be necessary to carry out full prophylactic procedures, such as the scaling of the teeth, or the treatment of a gingivitis. Attention to such details should be routine for patients receiving local anaesthesia, but for those patients having oral surgery performed under general anaesthesia, even greater care should be exercised, in order to safeguard the patient against the possible aspiration of foreign material, which would probably bring in its train post-operative respiratory or lung complications.

After considerations of these numerous preliminaries, correct surgical judgment and technique will naturally be reflected in the patient's post-operative course. Skill in these matters may be achieved by diligent study of the literature on the subject, an intelligent application of the knowledge acquired, and experience, which is gained gradually during years of practice.

3. THE CONTROL OF PAIN.

Pain following surgical procedures should be anticipated, and analgesic drugs administered even before its possible occurrence. Prior to prescribing these drugs it is necessary to study their pharmacology, so that they may be used with safety.

Before the year 1930, two derivatives of morphine and codeine appeared on the market under the proprietary names of DILAUDIN and DICODIN (Bilhuber Knoll), but neither of these compounds appears to have any outstanding advantages over the parent products, and consequently they have not been adopted as widely as was originally anticipated.

It should be explained at this juncture that acetylsalicylic acid and phenacetin fill a very useful purpose as mild analgesics, but their desirable effects are limited for patients in severe pain, and in these cases morphine has been considered the most reliable pain-relieving drug. "Were it not for its disadvantages such as drowsiness, nausea, vomiting, constipation, respiratory depression and addiction liability, its use in medicine would have been far more extensive and frequent. Repeated attempts have therefore been made by chemists in search of synthetic substitutes free from the undesirable effects of morphine. Partial progress has resulted from their ef-

forts although the projected problem has not yet been completely solved."

Two of the newer synthetic analgesics which seem to show promise are:—

- (a) METHADONE-SYN., METHADON, DOLOPHINE (Lilly), ADANON (Winthrop).
- (b) MEPERIDINE-SYN., MEPERIDINE, DEMEROL (Winthrop), PETHIDINE, ISONIPECAINE.

(a) Methadone.

This drug is prepared as the hydrochloride, and is dispensed as tablets, ampoules, and elixirs. The dose for an adult is 2.5 mg. to 10 mg. depending on the severity of the pain. The routes of administration are by mouth, subcutaneous injection or intra-muscular injection four hourly, with a limit of three doses in 24 hours.

Methadone is chemically simpler than morphine, and unrelated to it, although it possesses a pharmacological action remarkably similar to the original substance.

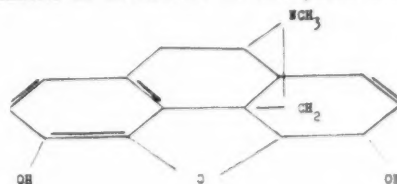
The structural formulae of morphine and methadone are shown in figures 1 and 2.

In therapeutic doses methadone does not produce sedation, and is less apt to cause respiratory depression and constipation. In surgical conditions it is said to be particularly efficacious as a post-operative analgesic.

A few side reactions may occur when the dose is excessive, such as nausea, vomiting and vertigo. Prolonged administration rarely results in euphoria, and there has been no record of primary addiction to it from legitimate uses.

(b) Meperidine.

This analgesic is also dispensed as a hydrochloride, and in many respects it has the same qualities as methadone. In therapeutic doses



MORPHINE
Fig. 1.

it does not cause the same degree of sedation and respiratory depression as morphia, and the indications for its use to alleviate pain are the same. It may be administered in the same way as methadone, and the average adult dose is 50-100 mg., four hourly.

According to Chen⁷ prolonged administration of meperidine may give rise to euphoria and also primary addiction and tolerance of analgesic doses have been reported concerning this narcotic.

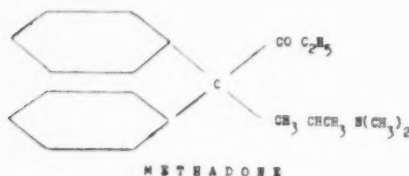


Fig. 2.

From the account above it may be concluded that the newer drugs may be added to the list of useful analgesics, but before concluding this section of the paper details regarding the more common drugs, aspirin and phenacetin, may prove of interest.

Aspirin.

Besides having analgesic properties, the salicylates (aspirin is one of its members) have antipyretic properties and are capable of lowering body temperature. This action is rapid and effective in febrile patients, but it is not noticeable in those who have a normal temperature.

Aspirin is one of the least toxic of the analgesic group of drugs, but it has some irritating effects on the gastric mucosa. It may cause nausea in individuals who are oversensitive to it.

Goodman and Gilman⁸ claim that nerve endings are not anaesthetized by salicylates, and that the use of aspirin locally for alleviating dental pain and sore throat has no rational basis. The same authorities also claim that the salicylates do not act as sedatives.

It is advisable to remember that large doses of aspirin undoubtedly induce prothrombinopenia, and therefore it may be responsible for unusual post-operative haemorrhage. Patients who have a tendency to bleed on account of prothrombinopenia should be given other drugs.

Phenacetin.

Phenacetin is said to be slightly more toxic than aspirin, both as an analgesic and antipyretic. Its mechanism of relieving pain is similar to that of aspirin.

It is important to remember that the antipyretic drugs are incapable of relieving severe pain even if given in large doses; in other words there is a definite limit to the usefulness of drugs such as aspirin and phenacetin, and where indicated more powerful analgesics should be administered.

4. THE CONTROL OF HAEMORRHAGE.

Information obtained from the patient's history, a careful clinical examination, and laboratory reports will help considerably in a determination of the potential operative haemorrhage risk, but as yet the entire picture of haemostasis is not thoroughly understood; therefore there is likely to be a small percentage of patients who will bleed excessively after an operation, in spite of all the usual and routine precautions. "There are, however, certain well defined facts and hypotheses which will be helpful in selecting patients for operation. In the light of present knowledge certain conditions can be diagnosed, and the dental surgeon should be aware of these, so that he can anticipate impending difficulty and seek the aid of a physician in evaluating the risk. These conditions may be considered as of a general systemic nature, in contrast to others that are essentially local."⁹

Local haemorrhage.

At all times be prepared or make adequate provision for patients who require help in the control of bleeding following exodontia and other oral surgical procedures. It is necessary that certain preparation should be made, so that there may be a practical approach to the problem.

On some occasions the patient will require assistance at his or her home, since the haemorrhage may have occurred after usual surgery hours. Therefore, an emergency kit must at all times be readily available.

The contents of such a kit should include:—

- (1) An efficient hand-torch.
- (2) A lip retractor.
- (3) Two pairs of dressing forceps—one curved and one straight.
- (4) Two or three pairs of artery forceps.
- (5) A pair of scissors.
- (6) A generous supply of sterile gauze "throw-away" swabs, and sterile cotton wool.
- (7) Narrow ½ in. to ½ in. gauze (with selvedge).
- (8) Adrenaline hydrochloride—concentration of 1:1,000.

This armamentarium should suffice for most emergency treatments, but in the event of a haemorrhage not being brought under control within a reasonable time, the facilities of a hospital should be sought, where an aspirator, a good light, and trained assistants are available.

On examination of the patient who is bleeding, the general appearance and condition of the patient should be assessed as accurately and quickly as possible, and the time during which bleeding has occurred should be noted,

so that the plan of treatment may be made according to the seriousness (or otherwise) of the condition.

Excessive clots lying in the mouth should be removed, and the site of the haemorrhage observed. If there is arterial bleeding this must be controlled first, by applying artery forceps on the bleeding point, i.e., if soft tissue is involved. In doing this, care must be taken to avoid trauma, by including only the vessel in the forceps, otherwise if other structures are involved a slough will appear later in this region. "Vessels should be ligated at both the distal and the proximal ends, so that when collateral circulation is established there will be no additional bleeding from this region. Troublesome venous bleeding may be handled in the same way. Ligatures of silk, cotton or catgut can be used. They should be large enough so that increases in pressure will not cause rupture, but not so large as to create unnecessary foreign body reaction. Ligatures should not be tied so tightly that they will cut the intima¹⁰ of the vessel.

In the case of bleeding from bone, the vessel may be closed by the use of a pair of rongeur forceps, or by burnishing the bone with a blunt instrument. If this is ineffective, the application of bone wax is frequently helpful. The formula for Horsley's bone wax is as follows:—

Yellow beeswax—7 parts.
Phenol crystals—1 part.
Olive oil—2 parts.

The cautery is sometimes valuable for the control of a capillary bleeding from soft tissues, e.g., after the excision of fibrous hyperplastic tissue from the buccal tissues. Precautions should be taken to keep the instrument at a dull-red heat, otherwise it may scar through the tissues, cause unnecessary damage, and leave carbonized tissue in the wound to act as a foreign body.

Adrenaline hydrochloride 1:1,000 applied to the bleeding surface on ribbon gauze under pressure is frequently of value, but this dressing must be removed within 24 hours, otherwise it becomes offensive after saturation with old blood, etc., and may cause infection.

The use of an absorbable gelatin sponge combined with thrombin solution 100 units per c.c. appears to have great possibilities in situations where the dressing can be closed in the wound with the aid of sutures, and left *in situ*. This dressing being a physiological substance is absorbed in the tissues.

The Council on Pharmacy and Chemistry¹¹ of the American Medical Association announced the acceptance of Absorbable Gelatin Sponge, described as "a sterile absorbable water-insoluble gelatin base sponge.

Action and Uses.—Absorbable Gelatin Sponge material, although insoluble in aqueous mediums, is absorbable and as such may be used as a surgical sponge, which may be left in place following closure of an operative wound. It is claimed that such material will be completely absorbed without inducing excessive formation of scar tissue or excessive cellular reaction in from four to six weeks. It is indicated in the control of capillary bleeding, particularly when moistened with thrombin solution.

Two other absorbable materials used during recent years for the same purpose as gelatin sponge are fibrin-foam and oxidized cellulose. However, Correll and Wise¹² reported that solutions of thrombin and penicillin were both rapidly destroyed by oxidized cellulose¹³; therefore the new material has an obvious advantage over the original one.

Other methods effective for the control of bleeding in some selected cases are: the application of ice-packs to constrict the blood vessels, and hot normal saline packs. The latter may be applied on an open wound in order to speed up the coagulation of the blood.

5. THE CONTROL OF INFECTION—ANTIBIOTICS.

As in general surgery and medicine, chemotherapy in Oral Surgery is one of the most valuable weapons with which to combat infection.

According to Kolmer¹⁴,

Chemotherapeutic compounds are substances capable of specifically or selectively injuring or destroying the living agents of disease *in vivo* without marked or serious toxic effects on the host.

and he says further that,

of all the chemotherapeutic agents known at the present time, penicillin comes nearest to this ideal . . . It appears that the therapeutic properties of penicillin, the sulphonamide compounds, streptomycin and other antibiotics, are largely, if not entirely, dependent upon bacteriostatic activity.

Penicillin.

Penicillin is effective principally against gram-positive organisms and certain gram-negative cocci. Fortunately a great number of the organisms found in the mouth are penicillin sensitive.

It has been found that a combination of penicillin with the sulphonamides is of value at times during the treatment of a severe infection, since one drug is effective against organisms which are not susceptible to the other; and also, it is suggested that the two drugs have a synergistic action when used together¹⁵.

Some important advantages of penicillin are that it maintains its activity in the presence of blood, serum, pus and large numbers of bacteria. It has no harmful effect on leucocytes, and it is relatively non-toxic both locally and systemically.

One disadvantage, however, is that it is rapidly excreted in the urine, and therefore it is necessary to maintain the concentration of penicillin during treatment, by frequent administration, the time intervals being governed of course by the form in which it is used and the nature of the infection.

Another disadvantage is that it is readily inactivated by heat and is relatively unstable in the presence of moisture; also, it is decomposed by acids and alkalis. The optimum pH for stability is 6 to 6.5. Oxidising agents have a similar reaction; hence oxidising mouth washes such as hydrogen peroxide should not be employed if penicillin lozenges are being used.

About 5 in every 100 persons have an allergy to either penicillin itself or one of the compounds incorporated in the solutions, such as procaine. These individuals may be treated with the aid of an antihistamine preparation such as BENADRYL⁷, which is diphenhydramine hydrochloride. The usual adult dose of BENADRYL is 50 mg. three times a day, and it is distributed in capsules containing 25 and 50 mg., an elixir—10 mg. per 4 c.c., and a parenteral solution—10 mg. per c.c. A knowledge of the pharmacology, toxicology, and therapeutics of the antihistamines should be known by the clinician before he puts them to use.

The dosage of penicillin should be sufficient to maintain at all times adequate quantities in the blood to inhibit the growth of the infecting bacteria and it is agreed that for the usual infection a blood level of 0.15 units per cubic centimetre is sufficient. After wide investigations it has been found that, by the method of intermittent intramuscular injections of penicillin, this blood level of 0.15 units per c.c. is obtained by giving 30,000 units every three hours, but it is considered good practice to increase the first dose by at least twice this amount in order to assure the most favourable results.

The third hourly injection of penicillin is rapidly going into disfavour, however, and strenuous efforts to prolong the effect of a single injection have brought more suitable preparations to light. According to Long¹⁰,

Therapeutically effective concentrations of penicillin in the blood can be obtained for 12-24 hours after a single injection of 300,000 units of procaine penicillin in an aqueous suspension, for about 48 hours after the injection of a like amount of procaine penicillin G suspended in sesame or peanut oil, and for at least 72 hours following the injection of a similar amount of procaine penicillin G suspended in a vegetable oil to which 2 per cent. aluminium monostearate has been added.

A procaine salt of penicillin G, used in an aqueous suspension, is DISTAQUAINE G⁷. This

preparation has been introduced recently and is handled more easily than penicillin in oily suspensions, which can only be used in wide bore needles on account of its viscosity.

Penicillin powders.

In the local use of powders for the insufflation of a wound, the calcium salt is used in preference to the sodium salt which is highly hygroscopic. On this account the calcium salt is not so apt to decompose during storage and is therefore more suitable.

Penicillin powder of the calcium salt may be obtained as a proprietary line in 10-gramme containers (5,000 units to 1 gm. with sulphamylamide powder). It appears to be useful in preventing the breakdown of the blood clot in a wound after an operation such as the removal of an impacted tooth, and in the majority of cases it can be applied as a routine procedure.

In considering the amount of powder that should be used on an exposed surface in oral surgery, let us review the amount of penicillin in the blood stream thought to be satisfactory for antibacterial activity. It was stated that a blood or serum level of 0.15 units of penicillin per cubic centimetre is generally considered adequate. Kolmer states that approximately 8 units per square centimetre are sufficient when powdered penicillin is lightly frosted on a wound exposed or one to be closed. It can be appreciated that even light insufflation of a wound or socket would create a concentration per square centimetre of penicillin many times greater than that which Kolmer advocates. Although the effects of extremely high concentrations of penicillin are not known from the information given previously, there is no need to use excessive quantities of the powder in order to obtain the desired results. The sulphonamides with penicillin act as satisfactory vehicles as well as having certain definite antibacterial properties themselves.¹⁷

Penicillin troches.

The use of penicillin lozenges produces a high concentration of the drug in the mouth when dispensed in an amount of 5,000 units per lozenge, which is the one now in common use.

There are occasions when lozenges are of greater value than the parenteral administration of penicillin, e.g., the treatment of infections in the mouth such as the superficial and local infection of the soft tissues which may follow two or three days after operation. The high salivary level of penicillin reaches the wound with great efficiency.

Therefore, lozenges may be used as a prophylactic measure following surgery in selected cases, but should not be adopted as routine procedure.

By way of warning, the indiscriminate use of troches for trivial conditions is to be deplored, since organisms may develop a resistance to the drug and, besides, some investigators have reported a painful stomatitis following their use^{18, 19}. The lip, tongue and

⁷Product of Parke, Davis & Co.

¹⁰Product of Allen & Hanburys Ltd.

cheek may become inflamed and extremely sensitive, particularly to certain foods, tobacco, spices and spirits.

In the clinical application of penicillin therapy generally, it is constantly emphasised in the literature that the use of this valuable antibiotic is no substitute for adequate surgery, e.g., if an abscess occurs and free drainage is indicated by incision, this should be done without delay.

Another important consideration in the plan of treatment for the patient who requires surgery in the presence of infection is the use of adequate chemotherapy for twenty-four hours before operation and for two or more days during the post-operative period.

Streptomycin.

It is not possible to deal with all the new antibiotics in this paper, but streptomycin is effective against certain important gram-negative organisms, many of which are not inhibited by penicillin; therefore a few details regarding its properties and use do not seem out of place.

Dihydrostreptomycin is now used more widely than the original "regular" streptomycin, because the former hydrogenated material appears to be considerably less toxic than the latter substance.

Streptomycin for parenteral administration is made up in a sterile isotonic sodium chloride solution in a concentration of 0.5 gm. per c.c.

In acute bacterial infections in adults, 0.5 to 1.5 gm. of the drug is given every twelve hours by the intramuscular route for five to ten days.

It diffuses fairly readily through the tissues and blood levels are said to be highest two or three hours after injection.

Streptomycin is a fairly stable substance and even in solution it can be kept a reasonable length of time without loss of potency.

Aureomycin.

Jacobs²⁰ has reported the use of this antibiotic for certain infections of the oral cavity and according to his preliminary report it appeared to be effective for the twenty-five patients whom he treated. These patients suffered from infections such as cellulitis, periostitis, alveolar abscess, and osteomyelitis of the mandible.

Aureomycin is said to be effective when it is administered orally and it can be detected in the blood serum twelve hours afterwards. It is reported further by Jacobs that intra-

muscular injections result in stinging and aching sensations, which may last at times for as long as two hours.

The drug is administered by mouth in capsules containing 250 mg. and is taken four times hourly three times a day, the total dosage being about 4 gm.

Some patients are reported to suffer from diarrhoea and nausea following its use.

Sulphonamide drugs.

Since the introduction of the sulphonamides and antibiotics such as penicillin, streptomycin, aureomycin and chloromycetin, there has been some confusion concerning the choice of antibacterial agents to be employed in the treatment of infections.

The choice of drug is dependent upon the agent causing the infection and a knowledge of the *in vitro* and *in vivo* effectiveness of each chemotherapeutic agent.

Infections caused by gram-negative bacteria are not always controlled by the antibiotic drugs, so that the sulphonamides are still widely employed in the treatment of such diseases.²¹

There are numerous sulphonamide derivatives available today, but it appears to be generally agreed that sulphadiazine is the most widely employed, since it is of proved value and toxic reactions are few.

Sulphamerazine is used by some because the interval between doses may be lengthened and adequate concentrations still maintained in the body.

Sulphathiazole is now used less frequently, and it is of interest to note a recent decision of the Council on Pharmacy and Chemistry of the American Medical Association²² to omit sulphathiazole from "New and Non-Official Remedies" and declare it unacceptable for inclusion in that publication.

The decision was based on two facts: the first that approximately 18 per cent. of patients who receive sulphathiazole experience untoward reactions—fever, rash, acute leucemia, leucopenia, and other signs of toxicity (which compares with about 16 per cent. for sulphapyridine, 12 per cent. for sulphadiazine, 6 per cent. for sulphathiazole, and 7 per cent. for sulphamerazine); the second that less toxic sulphonamide drugs, as well as penicillin and streptomycin, are now available.²³

6. OTHER COMPLICATIONS.

There are other complications which may occur less frequently in relation to oral surgical procedure, concerning which space in this paper does not allow more than brief mention.

(a) Temporomandibular complications such as subluxation should receive conservative treatment before the consideration of radical surgical correction.

(b) Antro-oral fistula does not usually persist after operation on the maxilla and where

there is absence of infection; but if a fistula does occur and sufficient tissue is available for closure the "follow up" operation should be performed.

(c) The fracture of a maxillary tuberosity is not always a serious complication if correct treatment is instituted at the right time. Bone with good periosteal attachment may be manipulated back into a satisfactory position and the periosteum sutured in place. If this is done promptly whilst the patient is still anaesthetized, sequestration is not expected.

The same principle of treatment should be adopted for other situations in the mouth where alveolus is fractured, but wanted, in order to maintain desirable contour of the alveolar ridges.

The thin plate of bone on the lingual aspect of the mandibular third molar is sometimes fractured during removal of this tooth, but in the writer's experience it is rarely necessary to remove it, provided of course the nutrient supply is maintained to the tissue through the periosteal attachment. In such cases sequestration does not occur.

Actually, the collapsing of loose fragments of bone into the space of the tooth socket helps considerably to fill that space and is probably one reason that Dean's alveolotomy technique is more successful than the original one of alveolectomy.

(d) The fracture of the mandible during an operation is fortunately a rare occurrence, but if it does happen reduction of the fracture and immobilization of the fragments should be instituted immediately.

(e) A trismus may on occasions cause almost complete lack of movement of the mandible, with consequences which may well be imagined. The use of heat applied locally to the part, and exercise, is the treatment of choice. In some cases it may be wise to refer the patient to a competent physiotherapist for such treatment.

(f) Localized osteitis or "dry socket," when inevitable, is best treated by the observance of the strictest oral hygiene, which includes the irrigation of the offending cavity with warm normal saline solution, followed by the insertion of an obtundant for the relief of pain. DENTALONE* (consisting of chlorotone, oils of clove, cassia and wintergreen) is a very suitable obtundant for this purpose. It should be used sparingly on a piece of narrow "roller" gauze, placed in the socket, and left *in situ* for twenty-four to forty-eight hours. This dressing should be protected from the fluids

of the mouth with vaseline gauze placed superficially.

7. WOUND DRESSINGS.

Preparation for dressings consists chiefly in arranging for a supply of sterile instruments, utensils, linen, gauze and cotton wool, and lotions, which should be brought to the patient on a sterile tray, suitably covered for protection against contamination from dust, direct contact with unsterile objects, and infected droplets.

Observance of the usual rules of asepsis is equally important during the conduct of surgical dressings as it was for the operation. Special care should be taken against contamination of any instruments or dressing materials which come into direct contact with the wound.

The wound that is healing by first intention will require little attention except the necessity of keeping it clean by mechanical means *pro re nata*. This should be done with care to avoid causing pain or the promotion of haemorrhage. Cotton wool moistened in normal saline (at a temperature a few degrees higher than that of the body) is swept over the wound in order to remove slough and debris.

It is usual to remove sutures three to four days after operation. A pair of sharp-pointed scissors and fine serrated dressing forceps similar to those employed by ophthalmic surgeons are very suitable for this procedure. An assistant may be required to hold a lip-retractor, and the use of an efficient light and an aspirator are valuable aids.

Deep wounds should be irrigated with a syringe of about 10 c.c. capacity with a curved nozzle, and for unusually large or deep wounds a Higginson's syringe with a suitable attachment is sometimes of help.

As stated above, normal saline solution is the only lotion required for healthy wounds, but if local infection is suspected a one in 1,000 solution of 5 amino-acridine hydrochloride may be used to advantage. It is referred to with favour in the literature²⁴. Five amino-acridine inhibits the growth of pathogenic organisms including *streptococci* and *staphylococcus aureus*, and it remains fully active in the presence of serum proteins and pus.

All patients receiving oral surgical treatment should be attended or kept under observation until wounds have healed; and in complicated cases a "follow up" system should be devised, so that a check may be kept on the patient's progress, e.g., a radiogram taken three months following an operation where

* Product of Parke Davis & Co.

bone is involved may give valuable information regarding repair of that tissue. Teeth closely involved during an extensive procedure should be watched with care for possible changes in vitality.

8. CONCLUSION.

Post-operative treatment in relation to oral surgical procedure should in the majority of cases be simple and uncomplicated, provided of course that the operation is well planned, performed skilfully, and that adequate provision is taken to control pain, haemorrhage and infection.

The recent introduction of less toxic and efficient analgesics aids greatly in the control of pain; the use of absorbable haemostatic substances such as gelatin sponge is of unquestionable value in the prevention of haemorrhage; and the discovery and widespread use of powerful antibiotic drugs controls or prevents the occurrence of infection.

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Dental Economics

A SYMPOSIUM.

The following papers were presented at the General Meeting of the Australian Dental Association, New South Wales Branch, as a Symposium on Dental Economics. The first paper, by Dr. J. Thomas, dealt with The Economics of Dental Practice; the second, by Mr. K. S. Black, with Accounting in Dental Practice; the third, by Mr. A. A. Joel, with Dental Public Relations; and the fourth, by Mr. C. Cormie, with The Relation of the Dental Supply House and the Dental Practitioner.

Dr. Thomas.

INTRODUCTION.

There should be no doubt in anyone's mind as to the trend in economic conditions in this country. How many realise the full implications of the present economic trends? A leading industrialist said recently that he considered that Australia was in a worse condition economically than it has ever been since the bank crash of 1893: this, despite the fact

that there is more money in the country than ever before, and overseas credits have reached an all-time high. Export incomes have increased from £309 million in 1946-47 to £908 million in 1950-51. The inflow of capital from abroad was £29 million in 1946-47, and in 1949-50 it had increased to £176 million. Personal incomes have increased from £748 million in 1939 to £2,186 million in 1949-50 and have risen considerably since then. These factors alone would seem to indicate that the crest of a wave of prosperity never before envisaged has been reached.

Everyone knows that this is not so. In actual fact, the community is caught up in a crazy inflationary spiral which, if not checked, can and will lead to financial disaster. The spiral was markedly accelerated in December,

1950, when the basic wage was increased by £1 per week. This increased costs beyond the actual need to cover the rise, as wage increases always do. So followed a further need for wage increases and the mad race—cost of living versus wages—started, and cost of living, having a regular three months' start, must always be just ahead of the wage rise. Goods are not being produced in sufficient quantities to meet the demand, so prices are soaring rapidly, with the result that wages are being continually pushed up in a vain attempt to overtake the lag in purchasing power. The recent attempt to peg prices and not wages must have a disastrous effect on industry. Production, which has been slowed up beyond reason, will stop altogether in many cases. Lack of production, reduced working hours in industry, increased wages and disproportionate increases in costs are all pushing the country towards a man-made depression at an alarming rate.

These are matters of national economy, but the immediate interest is the effect these conditions are having upon the dental profession.

Dentistry never has been a profession which has held out any promise of great wealth to its members. There are a number of reasons for this. The dentist is rendering a personal service to all classes of the community. He is not selling goods, the supply of which is limited only by the available market. He is unable to make capital out of booms which occur from time to time in primary and secondary industries. He cannot stockpile his services to gain benefits from rising prices or market shortages. He is dependent upon his own personal effort, the production of his two hands, to earn an income. He cannot employ others to earn money for him. He can employ others to assist him to work more efficiently, but these people can only function when he is working. When the dentist stops working, his income stops.

McCall says: "Dentistry does not offer, even at its best, the financial return which can reasonably be expected in the business or commercial world for an equivalent application of ability and energy."

Surely, this is very true. Admittedly, there are many men in business who never reach the income level of the average dentist. However, there are only about 10% of the population capable of entering a university. The dentist, besides being one of the 10%, must spend many years of hard work and study, and expend a great deal of money, without any income at all, before he can practise. Any man in commerce, with the intelligence necessary to become a dentist, who put the equivalent time and energy into his work, would

become one of the leaders in his chosen occupation.

ECONOMIC ASPECTS OF DENTAL PRACTICE.

Having placed dentistry in its proper perspective, how is the profession faring under the present day economic conditions? Are incomes comparable to present day costs? Considering all the handicaps under which the dentist labours, has he faced up to this economic crisis? There has been a general trend towards a higher proportion of costs to gross income, an alarming trend which has been accelerated over the last two years.

In the days of the "depression," when the efficiency experts began to advise the dental profession, it was claimed that costs should not be more than 33 1/3% of gross income. This figure is hard to accept. A report of the Dominion Bureau of Statistics of Canada in December, 1946, gave the average operating costs in Canada as 50%. Canada was already in the throes of inflation at that time, whereas Australian economy was fairly stable.

A figure of 40% might be a satisfactory operating overhead in this country. This is perhaps an ideal which cannot be easily attained. But whatever figure is attained, that figure should be maintained from year to year. Actual costs may rise, and have risen alarmingly in the last two years, but steps must be taken to see that gross incomes rise sufficiently to retain that percentage of costs at a stable figure.

The following figures are some averages taken over the past five financial years, from information obtained from a cross section of practices, city, suburban and country. In 1947 the average percentage of operating costs was 43.1%, 1948—45.1%, 1949—44.7%, 1950—49.3%, 1951—50.3%.

Included in these figures are several practices where the figure remained practically stable during that period, but in most cases the figures showed a rapid rise. If these figures only are considered, then the averages are as follows:—

1947—45.2%, 1948—47.8%, 1949—49.1%, 1950—55.1%, 1951—58.4%.

Examining these sets of figures, there is a steady rise from 1947 to 1949, and in both cases a big rise to 1950 and a further increase to 1951. In several cases the increase over the five-year period was as high as 16%.

It becomes obvious from these figures that many dentists are not earning satisfactory incomes, and the present trend is for a great falling away of income, taken in relation to actual purchasing power. In all cases, gross incomes have shown an increase, but so have costs. Costs have increased at a greater rate than gross incomes so the percentage has

increased and the profit percentage has decreased.

Many men are inclined to disregard the changing economic trends and do not fully realise to what extent their incomes are affected by increased operating costs, higher living costs and income tax.

Any business is conducted on the basis of a percentage profit over cost. The profit margin varies in different types of businesses, but it does not vary within the business itself. If a manufacturer produces an article for 2/., and his profit margin is 50%, he then sells his article for 3/-. If for some reason his cost of production is increased to 2/3 he does not add the 3d. to his selling price, he adds 3d. plus 50%, namely, 4½d. to his selling price, and so the article now sells for 3/4½.

When the average dentist finds his costs increasing he is very often satisfied to raise his gross income sufficiently to cover the cost increase and feels satisfied if his nett income remains stable. This, of course, is misleading. If his operating costs are rising because of factors beyond his control, then so are his living costs rising, and he must allow for this.

During the last 12 years, the basic wage has increased from £4/2/- to £10/16/-, an increase of over 150%. In one year, it has risen by £2/11/-. How many dentists could say that their incomes over the last 12 years have increased to anything like that extent? It is practically impossible to think of any item which has not risen in price at least 100% in the last few years, and in many cases the rise has been greater. Fares have risen over 100% and in some cases as high as 200%. Food and many other items of everyday expenditure have gone beyond the 100% mark. An investigation of the Retail Price Index shows that from June, 1939, to December, 1951, the following increases have taken place:—

Food and groceries	164%
Clothing	258%
Miscellaneous	87%
All items in cost of living	130%

Have dental fees risen in like proportion? Increasing fees, however, is not the sole answer to this problem, as will be shown later.

Dentistry should give a return that will enable a dentist to maintain a standard of living at least equal to that of the average successful businessman of the city or town in which he lives and, further, he should be able to retain that standard when he retires from active practice. It has been said that as a just return for his best efforts a dentist should expect:—

(a) To consolidate his finances to tide over emergencies.

(b) To educate a family.

(c) To take an adequate vacation each year, without worry.

(d) To provide for his retirement.

Surely this is not too much for one to expect. The services of men in many other professions and in executive positions become more and more valuable and their incomes increase after they are 50 years of age or more. This does not hold good in dentistry. It is generally accepted that a dentist's most productive years are between 30 and 50 years. But during this time he more often than not has to contend with the expense of a growing family and must also provide for his future.

A dentist may build a lucrative practice for himself but, should he suddenly become ill or meet with an accident that will prevent further practice, what can he do? He might conceivably operate a business from a bed or a wheelchair but he could not carry on a dental practice. The minute he cannot stand at the chairside, his income ceases. The re-sale value of his practice has gone, and little may remain but the market value of his equipment. Almost any other type of business could be carried on by an employee and, if the business has been successful, can often be sold at a profit.

PRACTICE MANAGEMENT.

The preceding arguments have shown the decline of the average dental practice. It is important for a dentist to know whether he is slipping or progressing. If he is slipping, the sooner he knows it and the sooner he makes the necessary corrections the better. If he is progressing, he can continue to progress.

The most alarming aspect of the whole of this picture is the upward trend of costs in relation to gross income. Increased wages, both directly and indirectly, are the major cause of this. Not only is there an increased wage bill, but everything else, such as dental supplies, stationery, gas and electricity, laundry, etc., have all increased in cost because of this wage increase. At one time a young girl was employed and trained as a chairside assistant. Provided she did not have to carry any great responsibility, or do a more exacting job, her wages remained at a figure comparable to her worth. Now, however, she has to be paid an increasing wage as her age advances, irrespective of the work she is doing or her worth to the practice. Eventually, the stage is reached where the junior girl, in the sense that she is performing junior duties, is earning the same income as a senior girl who has a more arduous job and is carrying a greater responsibility. The inevitable result is that the senior girl must have her wages

increased, and the stage has now been reached where young girls can only be employed in junior positions for a limited time and then must be replaced by younger girls. The wage position is economically unsound on any other basis.

Such are the problems. Where are the solutions to be found?

There are several obvious reasons to account for the increase in relative costs. These are:—

- (a) Increases in overhead costs, wages, supplies, etc.
- (b) Decrease in productive hours.
- (c) Inadequate fees.
- (d) Bad business management.
- (e) A tendency to forget the apparently minor points in practice building.

(a) *Increases in overhead costs, wages, supplies, etc.*

Rising costs are something which are to a great extent beyond individual control. However, there are ways in which we can steady this rising menace. Waste is the enemy of prosperity; therefore, use every possible device to reduce waste. Time can be wasted just as readily as materials, gas, electricity, etc. Check on telephone calls and postage. Remember the old war-time slogan: "Is this call (or stamp) necessary?" One call and one stamp saved each day will just about pay the A.D.A. membership fee. The wages bill may be kept in check by not employing assistants who are older than is necessary to perform their respective jobs. It is not necessary or advisable to employ a full-time technician, unless there is sufficient prosthetic work to keep him fully employed. It would undoubtedly be more economical to refer your work to a dental laboratory or, failing this, to share a technician with another practitioner.

(b) *Decrease in productive hours.*

It is generally conceded that dentists do not work the long hours that once they did. Since the introduction of the 40-hour week most have chosen to reduce working hours rather than pay overtime rates or cause staff discontent.

And after all, why should dentists have to work longer hours than other members of the community? Rather should they work shorter hours, because of the exacting nature of their work.

Working hours, however, must be made as productive as possible. Avoid waste, especially of time. This means, not only the dentist's time but the time of the assistants. Train assistants to do as much of the routine work of the practice as possible. This leaves more

time for productive effort. Telephone calls, friends dropping in for a chat, talkative patients and talkative dentists are all time-wasters.

Experts say that one day in every eight is given away in non-productive service such as socket treatments, denture adjustments, and advice to patients. Much of this wasted time is inevitable in a community service. But if a little thought is given to this point, time can be saved and fees charged which are normally missed. The days are gone when a dentist had to produce something definite, such as a filling, a denture or an extraction, before a fee could be charged. Then there is the time wasted while changing patients and attending to administration, all of which must be done, and it is doubtful if even the most efficient practice can show more than six productive hours a day.

A very great time-waster is the appointment broken without notice. In most practices today, appointments are booked so far ahead that patients tend to forget. The use of appointment cards is an absolutely necessary guard against broken appointments. Impress upon patients the importance of keeping appointments. Where possible, save administrative jobs, letter writing and the like, so that time created by broken appointments is not completely wasted. Beware of the chronic appointment-breaker and show him no mercy.

Many have too many patients booked in each day. This is a great problem, as considerable time is wasted when a treatment is only half completed at each appointment. Over the years the author has made many attempts to limit the number of patients each day, and in a very short time all sorts of difficulties develop because of the long lapse of time from one appointment until the patient's next visit. The answer, of course, is to be selective in accepting patients in the practice. However correct this might be in theory, it is very difficult to do today. The public are to some extent clamouring to share in an inadequate dental service.

(c) *Inadequate fees.*

The obvious way to increase incomes, of course, is to increase fees, and never in the history of dental practice has the need been greater nor the time more opportune to increase fees than the last 12 months. Many dentists have been at a loss to know just how to go about this matter in an efficient and businesslike way. They have been unable to decide which operations should provide the increased fees and the amount by which fees should be increased. In many cases they have been diffident regarding the possible reaction

of the patient. It has been observed that patients generally have reacted quite favourably to fee increases. In fact, it is only natural that they should expect them, but unnecessary publicising of the fact that fees are to be increased is not desirable. In most cases, no discussion is necessary.

Where required, prior quotes should be given, especially where denture service is involved. This should always be the rule with new patients, except for operative work where only a few operations are required. It is especially difficult with children and adolescents, where often months pass from the time of the original examination until the work is completed, and then more cavities have appeared. Remember these are times of inflation, and a quote given today may be unsatisfactory in three months' time.

One excellent method of keeping patients advised of fee increases is to send progress accounts. This will be discussed later. Wherever there is the slightest hint of dissatisfaction regarding fees, a frank but dignified discussion with the patient will usually place matters on a satisfactory footing. Very often, the only complaint is a casual remark to the secretary. The secretary should be warned to watch for this, and any complaint or remark should be reported. At the first favourable opportunity the matter should then be discussed with the patient.

Formula for assessing fees.

The most accurate way is to have costing carried out on each operation, and assess one's fees accordingly. This is a job, however, for an expert costing accountant and even this method has its pitfalls. There is another method, that of working on a strict time basis, but this has been discarded by most dentists as not entirely satisfactory. A middle course, however, based on an average of costs per hour and the time taken for various operations is suggested.

Firstly, it is necessary to know the costs. This can only be done with an accurate book-keeping system. It is essential that a dentist keep proper business records, in order to determine the cost of doing his work and in order to produce the many tax statements required today. An accountant should establish your system, and it should be a simple system which will fit in with individual requirements. Remember, records should be the servant, not the master.

Having determined overhead costs for the past 12 months, then establish the number of productive hours during the same period. A dentist would not average more than six productive hours per day. This, of course, might

vary in individual practices. Allowing for this figure, two hours' work on Saturday morning gives 32 hours per week. There are 52 weeks in the year, but three weeks for annual holidays and three weeks to cover public holidays, attendance at conventions and clinics and the odd time off for illness must be allowed. This gives 46 working weeks of 32 hours each, making a total of 1,472 productive hours per year. Assuming costs to be £1,472, the fixed overhead cost is £1 per hour. If the earlier figure is accepted, that costs should not be more than 40% of the gross income, then the hourly income should be not less than £2/10/- or, speaking in terms of annual gross income, £3,680, showing a nett profit of £2,208.

To take some examples of the application of these methods, consider a few typical operations. A simple inlay, taking 20 minutes for cavity preparation and pattern and 20 minutes for cementing and polishing, making a total time of 40 minutes, can be economically assessed at £1/15/-. A larger inlay requiring one hour operating time would be charged at £2/10/-, with a varying scale between these figures. A prophylaxis requiring 30 minutes would cost £1/5/-.

An extraction requiring, say, 15 minutes would cost 12/6, whilst two extractions done at the same appointment might require an additional five minutes, so the fee would be 17/6. Amalgam and synthetic restorations would be worked out on the same basis. In the case of the inlay, no additional charge is made for the laboratory time, as this has been allowed for in assessing overhead costs. It is assumed, of course, that the practice is run at the minimum cost conducive to efficient production, and that the operator does not deliberately waste time. This is a necessity, in fairness to both patient and operator.

Apply this method now to denture service, and allowing a little inconsistency combine chairside time with laboratory time, whether the operator's or the technician's; in that way the basis on which to assess the cost is found. There is precedent for this. In America, where hygienists are employed, their time is charged at the same rate as the dentist, and again, where an apprentice is employed in a garage or other such industry, his time can be charged at full rates.

When constructing a full upper denture, the chairside time for impression, bite, try-in and fitting, with follow-up adjustments would be about two hours. Laboratory time would be at least four hours, making a total of six hours at £2/10/- per hour. The fee thus arrived at is £15.

No specialist in costing would give absolute approval to this method. Nevertheless, it is a

method which will give satisfactory results generally in establishing minimum fees. Any increase is a matter for the individual dentist.

Some dentists have developed the habit of relying on their denture service to provide the bulk of their incomes, relegating conservative dentistry and surgery to a secondary place. When more or less forced to do so, they render these services, but on an uneconomical basis. If fees were assessed on some logical basis, such as the above, there would be less dentures made. Dentists would make a reasonable income by conducting a conservative and ethical practice, without being forced to look for denture work.

Now, just a word of warning on this question of fees. High fees cannot take the place of efficient practice management. Dentistry is a public service and most of it is paid for by wage-earners. In time of depression, the spending power of the community is restricted. Money is only spent on the essentials or what the individual considers as essential. The present inflationary period, with rising living costs, is tending to produce the same reaction. Be careful not to push fees beyond the stage where patients can afford, or will be disposed, to pay them.

Bluestone¹ sums up the position in saying that, if fees should increase beyond the ability of the average wage-earner, dentistry will come into the class of highly specialised medical service, which only the person of means could afford. "Because it is not always a matter of immediate urgency, . . . dental service is postponed to the day of easier money, when luxuries, of which this would seem to be one, can be indulged in more freely. In this respect the community makes the mistake of following the pattern established by the individual, and leaves dentistry out in the cold. . . . Nothing can be more fatal to dental progress than the acceptance of such a professional destiny since it is based on false premises. Would anyone accept as final the bold statement that dentistry is intended only for those who are wealthy and its benefits must be denied to all others? If so, the cupidity of the dentist, as a partner to such an arrangement, would reflect unfavourably on his development as a man of science, since it would limit his opportunities."

Men of many years standing in the profession say that if they were beginning practice again they would do no free work. The author is not referring now to charity work, but free work for other professional persons and relatives. At the best it is unsatisfactory for all concerned. It is not unusual for a successful dentist to have several doctors and their families on his free list. Now doctors

are notoriously prolific, and it can become quite a drain on one's time. Obligations are incurred or believed, and very often stupid exchanging of gifts takes place. Also, independence of choice of professional service is lost to each party. Professional discounts are suggested, but no free lists.

(d) *Business management.*

Each year, when the accountant prepares the taxation returns, he allows a certain figure for depreciation. Now this amount should be left in the business account. It can then be used for replacing worn-out equipment, or purchasing new equipment or furniture. Many things are necessary to maintain the practice at an efficient level, with modern appearance, and to avoid that run-down effect which is so damaging to any business. Depreciation accounts may even be established.

A further development of this idea is to work out your capital expenditure on education and professional training. Assuming that it amounted to £1,000 and allowing 5% per annum as professional depreciation, £50 per year would be available for post-graduate study, attendance at congresses, conventions and professional lectures.

Collection of fees.

Although some practices may work on a strict cash basis, not many are in that fortunate position. With a little effort, however, and establishment of a sound policy, long delayed payment of accounts and bad debts can be avoided. A small notice to the effect that a deposit is required on all service is effective, when placed in a conspicuous position on the secretary's desk and the patient cannot help but see it. The first time a patient visits a dentist is usually the one time he comes prepared to make a payment. If nothing is said on that occasion, one can rest assured he will not come prepared again. A patient seldom spontaneously offers to pay. As he does not know office policy, he will assume that he will receive an account some time or other.

Be careful of the patient who offers to pay when the work is completed. As far as the patient is concerned the work may never be completed. After services have been completed, the patient is placed in an independent position. The services have been rendered and cannot be recalled or repossessed.

An excellent method of keeping the accounts down is the use of progress accounts. In these days of busy practices, often with long periods between appointments, it is sometimes many months before the work is completed and the account rendered in the normal way. By this time the account is often comparatively large

and the patient receives quite a shock when asked to pay out an unexpected sum. Also, because of the present inflationary trend, the money on the books is gradually losing its purchasing power. These difficulties may be overcome by rendering accounts at regular intervals. Some prior arrangements can be made with the patient, but this is not really necessary. Be sure to mark the account "Progress Account." In order to avoid confusion when rendering a second or third progress account, the previous ones having been paid, it is advisable to give details of all payments.

Besides keeping the book debts at a minimum, the progress accounts serve other useful purposes. They give the patient an indication as to what he is expected to pay for professional services, and if he feels that the fees are too high he then has the chance of discussing the matter, or if he so desires he can terminate treatment. It is better to find out that the patient regards the fee as too high when he owes £5 than when he owes £25.

If the progress account is not paid, it is a warning to watch the financial standing of the patient. On the other hand, if it is paid, it is an indication that the patient is satisfied and is a guide to future relations.

It is a good idea to present accounts to a patient rather than post them. This often produces payment on the spot, or a quicker payment than if it is left to the end of the month. These days, it costs approximately sixpence to post an account, so a direct saving is consequently made.

The next point in business management is the operation of a recall system. Under present conditions, it is astonishing how many patients appreciate the suggestion that a definite appointment be made several months, or even a year, in advance. Six months is a good average recall period, although times vary from three months to a year, depending on the individual patient. Patients realise that the dentist today is a very busy man, with his time fully allocated weeks or even months in advance. It is not easy to receive an appointment if and when they wish it. Due to the shortage of dentists, this situation is likely to continue. They also realise that systematic care is not only essential but desirable and economical.

The recall system should only be used in agreement with the patient and should not be overdone. If it is ignored on the first recall, do not waste time repeating the notice. There are many advantages to both the patient and the dentist in this system.

From the patient's point of view, the responsibility of arranging future appointments is transferred to the dentist; therefore it must

be carried out efficiently. It provides a continuity of service at lower cost. The patient maintains contact with the dentist, which is an advantage in an emergency.

From the dentist's point of view, it retains a good nucleus of regular patients. If continued over a period of years, it tends to build up an exclusive and desirable practice, as it provides an opportunity for weeding out the undesirable patients. Busy and slack periods may be levelled out by the operation of the system in a flexible manner. It demonstrates an interest in the patient's welfare and patients like to talk about it. It is a good topic of conversation around the bridge table.

In nearly every case, when the patient is recalled, some justifiable fee can be charged, either for X-rays, prophylaxis or both. Work is discovered which otherwise would be missed from the practice. Above all, the dentist is fulfilling his obligation to the patient, in maintaining a good standard of oral health, saving teeth and keeping dentures in a serviceable condition.

Working on a recall system tends to reduce large accounts. It is preferable to do small amounts of work for a number of patients, rather than a large amount for one patient. The accounts are smaller and so are more rapidly finalised. There is value in the rare case where no fee can be charged. The patient in this case becomes a very good ambassador for the practice.

The next point is the use of a stock book. Much valuable time can be lost by not knowing what stock is required when the depot representative makes his regular call. No sooner has the representative left the office, when several things are remembered, and a telephone call or a letter is required. Even then, an essential item of stock will run out at the critical moment.

The use of a special stock cupboard and a loose leaf stock book is a good practice. Each page is ruled in four columns and a page kept for each item of stock. The first column is for the date, the second for the amount received into stock, the third for the amount taken out of stock, and the last column shows the balance in reserve at any given time. The work of entering is all done by the secretary, who can also attend to the ordering, by referring to the stock book, there seeing at a glance what stock is required and also being guided as to quantities to be ordered as previous purchases are shown as well as monthly consumption. The stock should be checked at regular intervals to correct any errors in the entering. It is also a good check against wastage and pilfering.

Opportunities to save on stock purchases, by quantity discounts, are all too few. Wherever

discounts are available, always buy in quantities; also, pay your accounts within the required time in order to take advantage of the discounts. A stock account of £500 per annum renders a saving of £12/10/- if the customary 2½% discount is allowed.

As soon as a practice warrants expansion, and this is sooner than is generally realised, a second surgery is a very good investment. This surgery should be fully equipped, and as nearly as possible all equipment and instruments should be duplicated. Thus much time is saved in readjustment when changing from one surgery to another.

A second surgery eliminates all the waste time involved in changing patients. Also, waiting time for anaesthesia, haemorrhage and setting of cements can be used to advantage. Often operations of short duration, such as a simple extraction, X-rays, socket treatment, denture adjustments and short consultations, can be performed without expending any extra time.

Some authorities state that production can be increased by as much as 25%, by the planned use of a second surgery, without any extra effort on the part of the operator. Taking the earlier figure of £3,680 as annual gross income and allowing for only 10% increase, you will see that your gross income will increase by £368—not a bad return for an outlay of approximately £1,000.

(e) Practice building.

Firstly, be prepared to accept responsibility for your work. Always be prepared to admit a mistake, which is usually only an error of judgment. Do not begrudge service, and learn to make capital out of failures. It is essential to maintain friendly relations with patients, who in their turn will show their appreciation by recommendations.

Children need not be a burden to a practice. Children's dentistry can be made quite attractive by a little care and patience, and also quite economical. Many dentists make the mistake of charging only a nominal fee for children's work. A fee should be charged according to the services rendered, and the service should be of a high standard. Remember that children grow up. Satisfied child patients and satisfied parents are the best of all recommendations.

To handle children, in fact to handle any patients, requires a mind free from unnecessary worries and an even temper. A brain specialised in unrelieved dentistry is not attractive to all potential patients. An active interest in civic affairs and community ser-

vice should be part of the life of every dentist. In practically every area, there are Boy Scout troops, who always require assistance. This movement, being non-political and non-sectarian in the strictest sense, is an ideal activity for a dentist. An active interest in some sport is essential for good health, and also to maintain contact with your fellow man. The days when a dentist had to remain aloof from the community activities have gone. Many civic and national leaders have come from the ranks of our profession, and are usually men who have been successful in the profession.

CONCLUSION.

I would remind you of my opening remarks. Dentistry is not a lucrative profession. Men with ability to be successful dentists could earn much greater incomes in other walks of life. There are not many young men willing to expend the necessary time, energy and capital that is required in the dental profession before a reasonable income can be earned. The practice of dentistry is hard and trying work, and tends towards a very restricted life.

We owe it to ourselves to see that we earn an income which will allow our families and ourselves a reasonable standard of living and to make adequate provision for the future.

These conditions being fulfilled, dentists will be able to look back on a full life of service to humanity and the profession.

Corona Buildings, Hunter Street, Newcastle.

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Mr. Black.

These remarks concern some aspects of accounting and a brief consideration of taxation.

At the outset a clear statement of the minimum records which must be kept is given in Section 262A of the Income Tax Assessment Act, which reads:

Every person carrying on a business shall keep sufficient records in the English language of his income and expenditure to enable his assessable income and allowable deductions to be readily ascertained and shall retain such records for a period of at least seven years after the completion of the transactions, acts or operations to which they relate.

Penalty not less than £2 or more than £100.

Dental accounting falls into the receipt and disbursement of money as returns of dentists,

whilst they can either be on a cash or accounts rendered basis, are usually on the former. The most satisfactory method of keeping a permanent record is to ensure that, as far as possible, all transactions are recorded in the bank account. All moneys received should be banked intact and all possible payments made by cheque. With regard to moneys received a carbon copy (not a butt type) receipt book should be used with four or more receipts on face and a money column on the right hand side of the original and duplicate. At the end of each day, or whenever banking is done, the duplicates can be added and a corresponding amount of money should be on hand. If the takings are then banked intact there is a permanent proof of the correct disposal of the money both from the Taxation Department's point of view and the dentist himself. I know of two cases of dentists among my own clients who recently have had money misappropriated by their secretaries and had they been using the system set out, checking the additions at intervals and seeing that the amounts banked agreed with the totals in the receipt book, it never would have happened.

Of course, there is no system which will show up errors if the patient doesn't require a receipt and, whilst some dentists welcome this practice for reasons best known to themselves, it can also be to their cost, because if their system allows them to put cash in their pocket so must there be an opportunity for their secretaries to do likewise.

As self-balancing debtors' ledgers are not usually kept by dentists, the opportunities for misappropriation are many and I suggest to you the need for paying attention to this side of your practice and not, as I have seen so often, leave it entirely to your staff, who could be doing whatever they liked. Occasionally check the receipt book with the bank slip before the banking is done and carry out surprise tests to demonstrate that you know what is going on, such as making a note of any patient who pays in cash and checking up some days later to see that a receipt has been made out, and generally demonstrate some interest in the financial side of your practice.

Although the self-balancing debtors' ledger is not practical to install in most dental practices, the following is a brief outline of its working.

The debtors' cards would be posted from a fees journal which would be totalled monthly and from the receipt duplicates. The monthly total of fees and cash received would be posted to the debit and credit respectively of a control account and the total of the indi-

vidual balances should then agree with the balance on the control account. The main advantages of this are that you firstly ensure that everything in your fees journal is charged to a patient and that accounts rendered are not overlooked and secondly it stops false entries which may cover up defalcations.

A fees journal or register can be kept in any form most suitable to the individual, its only accounting function being to ensure that patients are charged for all work done, and it should be related to your appointment book.

As far as expenditure is concerned, if all payments are made by cheque and sufficient information shown on the butt, it then is only a matter of summarising them under the appropriate headings such as Wages, Purchases of Drugs, Instruments, etc. The payment for sundry items should be made through Petty Cash which is best kept on what is known as the "imprest system." For example, you draw, say, £5 as the fixed amount and when this is nearly depleted, say only £1 left, you draw a cheque for £4 to bring it back to £5; in other words there should always be £5 on hand in either cash or vouchers for moneys spent. The reimbursement cheque of £4 would show on the butt the summary of how it had been spent so that all expenditure is recorded again in the bank account.

A dentist is able to keep a better control of finances if he runs two accounts, one for his practice and one for his private income and expenditure, reimbursing the latter from the former with a fixed monthly sum.

The amount of drawings can be based on last year's income, but of course make sure that sufficient is left in the business account to cover taxation. This method, if adhered to, ensures that you live within your means and gives the ready money to pay the income tax. I suggest to you that no man should go on haphazardly drawing money out of his bank without any idea as to how he is going to meet his tax or any other commitments.

With regard to taxation, the following figures may be of some guide to you in arriving at your budget:—

TABLE I.

Gross Income.	Net Income.	Tax.	Residue after Tax. Amount.	% to Gross.
£3,000	£1,500	£310	£1,190	40%
£4,000	£2,000	£515	£1,485	37%
£5,000	£2,500	£757	£1,743	35%
£6,000	£3,000	£1,020	£1,980	33%
£7,000	£3,500	£1,307	£2,193	31%
£8,000	£4,000	£1,615	£2,385	30%

In working out the above figures I have presumed the ratio of expenses to gross as 50%, although a recent survey shows that they have increased in 1951 to 60%. Also no account is taken of dependants, life assurances and other deductible items, and obviously this could only be done by calculating each individual case, but I suggest that the above figures should be of some use as a guide.

It shows that on a gross income of £3,000 you could take up to 40% of your gross receipts as drawings and the percentage falls to 30% on £8,000 gross (Table I). It is of interest to note that from £7,000 to £8,000 gross, an additional £500 net, the residue after tax only increases by £192. Of course, I have made no allowance for provisional tax and if your income was steady this would have no effect. However, on commencing practice the figures would have to be doubled for the first year.

I think you are all generally aware of the common deductions which you may claim for tax purposes, but I will touch on a few which can sometimes be missed. Firstly, you are allowed depreciation on carpets 10%, electric motors 5%, furniture and fittings 2½% and instruments and plant 5%. If you so desire, the cost of replacements may be allowed in lieu of depreciation.

When any depreciated equipment is disposed of either by sale or scrapping, the difference between the written down value and the sale price, if a profit is taxable, and if a loss is allowable. In regard to a profit it is only taxable to the extent to which depreciation has been claimed in the past. This point needs to be watched when selling a practice as the plant, etc., should only be sold at the written down value and the goodwill increased. Personal goodwill is not taxable, but goodwill attaching to a site and following a lease is taxable; dentist's goodwill is of course personal.

For those who rent a surgery away from home the expenses thereof are obvious, but for those who practise at home some could be missed. Generally the Taxation Department allows one-third of the apportionable expenses as being attributable to the practice, i.e., Rent, Rates and Taxes, Gas, Electric Light, Telephone, Repairs or painting the house, Cleaning, etc. Travelling Expenses incurred going to your place of business are not allowable, but those incurred visiting hospitals or patients, attending conferences, or visiting supply houses should be claimed. Specialists dependent on the general practitioner for their patients can also claim a certain amount of entertaining expenses.

I think if you are in doubt as to whether to claim any expenditure incurred in the production of assessable income, you should put it in but show fully what it was for.

Whilst false returns or understating income carry heavy penalties (maximum £500) and double the tax avoided, the Commissioner has power at any time to amend the assessments in the event of fraud, and within six years in all other cases. Where the taxpayer has made a full disclosure no amendment increasing the tax shall be made except to correct an error in calculation or mistake of fact and no such amendment shall be made after three years from when the tax was payable (Section 170).

Those of you with employees having over ten years' service start to become liable for long service leave payable after twenty years' service.

In these days of rising costs the greatest attention must be paid to the control of expenditure and to obtaining the maximum efficiency from yourself and your practice as a whole. Unless savings of expenses are effected the higher costs will have to be taken out of your own income or passed on to patients by means of higher fees.

Mr. A. A. Joel.

Mr. Joel spoke briefly, supporting some of Dr. Thomas's statements. He said that public relations were most important for the dentist, as the success of his practice depends on the consideration he shows towards patients, particularly when in need of urgent dental treatment for the relief of pain. The psychological foundation of dental practice was the recognition of the personality of the patient and treatment based on this concept. Mr. Joel urged that members support their Association in order to mould their ideas on social, political and technical problems in relations both within and without the profession. (*Abstract.*)

Mr. Cormie.

Further comments pertinent to Dr. Thomas's paper were made by Mr. Cormie, who spoke on the method of costing in dental practice based on hourly expenditure. He discussed methods of reducing the costs of practice, discounts on purchases of dental supplies and the use of an additional surgery to save time during patient change-overs. The question of retirement was also mentioned, and ways of providing for this period, through insurance and investment, were discussed. (*Abstract.*)

Ossifying Fibroma

CASE REPORT

A. J. Arnott, D.D.Sc. (Syd.), F.A.C.D., F.I.C.D., F.D.S.R.C.S. (Eng.)*

Master L., aged 12, was referred for examination and treatment of an enlargement of the left maxilla.

The clinical examination disclosed a distinct firm swelling of the left maxilla, particularly visible in the palate. Asymmetry of the face on the left side was also present. (Figs. 1 and 2.)



Fig. 1.—The facial asymmetry due to the tumour.

The swelling was observed by the patient and his relatives six months previously. No pain was experienced by the patient, but the persistence of the lesion persuaded the parents to obtain professional advice.

The blood examination indicated a differential and full blood count within the normal



Fig. 2.—Intra-oral view of the palatal enlargement.

range for a child of 12 years. The blood chemistry report was:—

Serum Inorganic Phosphate: 4.5 mg. %.

Serum Alkaline Phosphatase: 40 units (Bodansky).

Serum Calcium: 10.4 mg. %.

The alkaline phosphatase value was higher than normal.

The radiographic examination disclosed a large, somewhat opaque lesion completely involving the left antrum and bulging out from the lateral antral wall which was eroded. The tumour projected into the left nasal fossa and extended to the orbital floor. (Figs. 3 and 4.)

No other osseous lesion was detected in the skull and the pelvis. The radiograms of the long bones appeared normal.

SURGICAL TREATMENT, 12/6/51.

The patient was premedicated and regional anaesthesia (maxillary "block") was employed.

A large flap of the mucoperiosteum was raised. The flap extended from the midline to the tuberosity of the left maxilla. The tumour had the appearance of an ossifying fibroma and yet in the deeper portions in certain areas there were additional characteristics of osteoclastoma.

Following removal of the tumour (Fig. 5) the sharp edges of the bony cavity (Fig. 6)

*Dean of the Faculty of Dentistry, University of Sydney.

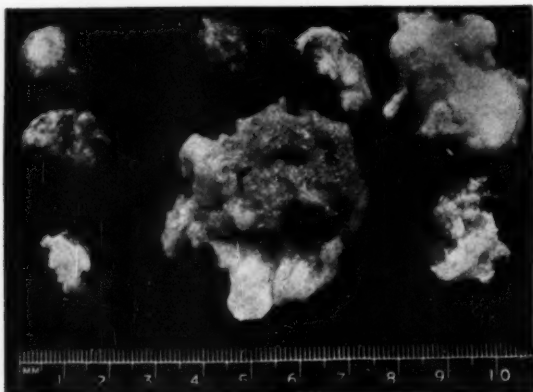


Fig. 5.—The tumour following dissection.

were filed smooth and the bleeding points controlled. The large wound was packed with vaseline gauze and the flap returned and sutured with catgut. A course of penicillin therapy was commenced.

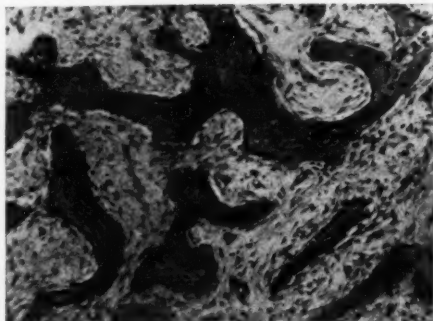


Fig. 6.—The cavity in the maxilla following removal of the tumour.

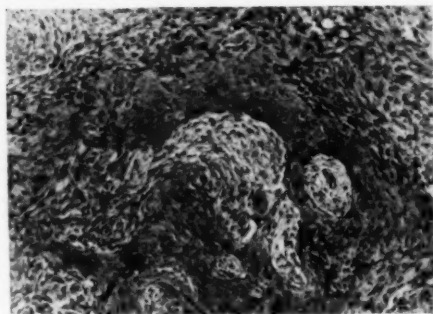
The wound healed satisfactorily and the patient was referred to the Deep X-ray Therapy Clinic, Royal Prince Alfred Hospital, for post-operative therapy.

The histopathological report was: "All sections have a similar appearance. The main mass of the tumour consists of fibrous tissue of varying maturity, the majority of it being young. Scattered throughout are small collections of giant cells and, at the edge of the tumour, fibre bone is present in most of the sections. The appearance is that of an ossifying fibroma." (Fig. 7.)

To date, ten months after surgery, there is no evidence of recurrence of the tumour.



(a)



(b)

Fig. 7 (a) and (b).—Photomicrographs showing early bone formation.

The author is indebted to Dr. Jean Armytage, Consulting Pathologist, and Dr. F. McEncroe, Consulting Radiologist to the United Dental Hospital of Sydney, for their excellent co-operation, and to Mr. Slater, Clinical Photographer to the Faculty of Dentistry, for the photography.

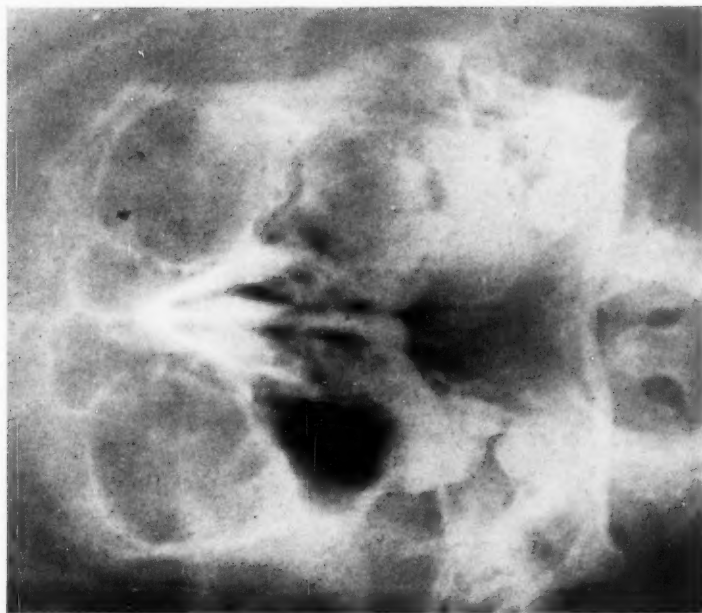


Fig. 3.—Antero-posterior radiograph of the skull, showing the projection of the tumour into the left maxillary sinus.

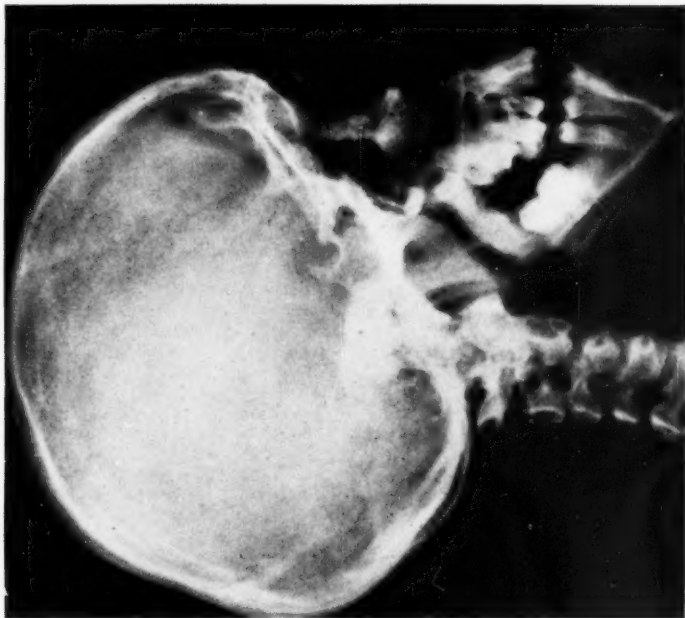


Fig. 4.—Lateral radiograph showing the lesion extending to the orbital floor.



Dental Materials*

Current Notes No. 15

ACRYLIC RESINS.

The March, 1952, issue of the *Journal of the American Dental Association* contains eight articles on prosthetic and restorative materials, chiefly acrylic resins. Half of these articles stem from the group of research workers at the National Bureau of Standards.

In one of these papers¹ it was shown that compression and injection methods of moulding produce equally satisfactory dentures. This should settle the claims occasionally made for the superiority of injection moulding, although judging by the correspondence which follows the paper one of its chief protagonists is still not convinced.

Two articles on plastic teeth are included. Dirksen² surveys their advantages, disadvantages and limitations. The N.B.S. group of workers³ show that when acrylic teeth fail to bond satisfactorily to the denture base the chief cause is the presence of traces of wax. In advocating the use of modern synthetic detergents to assist in wax elimination the authors confirm the experience reported in Current Notes No. 5. Tinfoil substitutes can also interfere with the proper bonding of acrylic teeth.

Several papers deal with self-hardening resins and two of them concern prosthetic resins. Jeffreys⁴ recommends self-hardening resins as being excellent for relining and repairing on account of the short processing time required and their "great dimensional accuracy." However, the lower transverse strength of self-hardening resins is considered to render them unsuitable for the entire denture base. This opinion is confirmed by the N.B.S. workers⁵ who find that self-hardening denture base resins gave a strength of about 80 per cent. of that of the heat-cured resins. The colour stability is shown to be poor and the bond between the self-hardening denture base and acrylic teeth is unsatisfactory enough to necessitate some mechanical means of retention.

In discussing restorative self-hardening resins a cautionary note is struck by some authors⁶. A study of 600 restorations in

human teeth and 72 in dogs' teeth indicates a slight tendency to yellowish discoloration and the flow under stress contraindicates their use for stress-bearing areas. The experiments with dogs' teeth suggest some pulpal response which is probably reversible in nature. From experiments with young monkeys, Seelig⁷ shows that some self-hardening resins do not cause pulpal irritation irrespective of mixing method or extent of cavity preparation, while others produce a slight reaction which is probably reversible. Excess monomer is not held to be responsible for pulpal irritation but it is important to use a technique which eliminates the possibility of leakage and subsequent irritation.

An interesting demonstration of the leakage that can occur at the margins of restorations is described by Nelsen, Wolcott and Paffenbarger⁸. Alternate cooling and warming of restored teeth results in the marginal percolation of fluids due to the difference in the thermal expansions of the tooth and restoration and of the fluid occupying the crevice between them. The extent of this percolation as illustrated by the authors' photographs is surprising and it no doubt plays some part in the recurrence of caries at the margins of restorations.

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*Contribution from the Commonwealth Bureau of Dental Standards.

The DENTAL JOURNAL of AUSTRALIA

Editorial Department

Fluoridation Approved by National Health Authorities

The recent decision of the National Health and Medical Research Council to approve the fluoridation of water as a means of partially controlling dental caries is of the greatest importance in the promotion and initiation of fluoridation in Australia.

At the 33rd Session of the Council¹ in May, 1952, the following resolution was passed:

The Council, in view of the practice advocated by responsible American medical and dental authorities in respect of fluoridation of water as a factor in the control of dental caries, considers the addition of fluoride to water supplies to be a reasonable and safe measure, provided the addition of this substance is carried out under strict supervision and scientific control to ensure that the percentage does not exceed accepted standards laid down by the State Health Departments.

The use of this substance as a means of self-medication is strongly condemned.

It has been well established by the studies in the U.S.A. and Canada that fluoride artificially added to drinking water is as effective as natural fluoride in reducing dental caries. Dr. Hilleboe, the State Health Commissioner in New York, reported² that among children at Newburgh who had used fluoridated water since birth the reduction in dental caries reached 66 per cent. Furthermore, "absolutely no harmful effects from drinking fluoridated water" were revealed by careful physical examination during the experimental period.

At the present over 350 communities in the United States are fluoridating their water supplies and an equal number have approved the measure. Some of the larger cities using fluoridated water are Washington (population 1,000,000) and San Francisco (population 800,000), while New York is preparing to bring the measure into operation.

In spite of this progress and the publicity and widespread approval of fluoridation in the U.S.A., Dr. John Knutson, of the Division of Dental Public Health of the U.S. Public Health Service has said: "At the present rate it will take over 100 years to get fluoridated

water into all community water supplies in the United States."³

In Australia, fluoridation has been approved by the Australian Dental Association (New South Wales Branch), and the National Health and Medical Research Council. There is a great deal of effort to be expended by all interested in dental public health to bring about the initiation of fluoridation following this approval of the procedure.

In a recent statement on fluoridation to the Australian and New Zealand Association for the Advancement of Science in August, 1952, Dr. N. E. Goldsworthy, Director of The Institute of Dental Research, clearly indicated the position in Australia of the epidemiology of dental caries and the application of measures for its control:

While this country is reputed to suffer more than most countries from dental caries, there are few if any figures available. This absence of information on the incidence of caries in Australia would appear to betoken a lack of interest in this disease which is paralleled by a similar lack of interest in its prevention by the artificial fluoridation of water supplies. Neither the medical nor the dental profession appears to think either matter important enough for action⁴.

As has been pointed out, the Australian Dental Association has approved and has been instrumental in obtaining approval for fluoridation by the National Health and Medical Research Council, but this is not the *action* which is referred to by Dr. Goldsworthy.

The role of the Dental Association is to adopt a positive policy on fluoridation and to see that policy adopted by the local health authorities.

The dentist has responsibilities in this matter also, and these may be broadly defined as:

1. Promoting the idea of fluoridation.
2. Supplying accurate information about fluoridation.

3. Indicating the need of some measure to reduce caries.
4. Assessing the results of fluoridation.⁵

The control of dental caries as an integral part of the promotion of oral health is the prime responsibility of the dentist and measures for its control are naturally the province of the dental profession. Accordingly, the promotion of fluoridation is a major professional obligation in the interest of the public health of the community.

It becomes obvious that the lowering of the dental caries rate by fluoridation will reduce the disproportion which now exists between the untreated and the treated carious teeth *without any lessening of the amount of restorative dentistry that the public now receives.* Furthermore, it is important that the profession is unified in its opinion on the merits and the technical details of the fluoridation procedure, in order that the case for fluoridation can at all times be promoted to the best advantage.

The need for fluoridation is obvious but surveys to determine the caries incidence to give basic information are essential not only for the evaluation of fluoridation but for planning a comprehensive dental health programme for the community. The initiation, supervision and proper operation of the fluoridation of public water supplies is the responsibility of the State Health Department and the engineering and technical aspects should be controlled by State regulations. Municipalities wishing to install fluoridation as a result of local promotion should be guided by the State authorities in so far as installation, equipment and procedure are concerned.

These fluoridation projects should be accompanied by suitable plans for dental health surveys before fluoridation and evaluation during the course of the project. Such examinations in the U.S.A. are co-ordinated by the Division of Dental Public Health of the State Health Department in conjunction with the Universities or Dental Research organisations.

The recent comment of the American Dental Association on the result of the Seattle referendum in which the citizens decided not to fluoridate the public water supply at the present time is pertinent. This referendum was lost because more facts on fluoridation were not placed before the public.

The dental profession, however, must have concern with the discharge of its own obligation to provide guidance and leadership in those problems where technical dental knowledge and training are essential to decision⁶.

It is the obligation of the profession in Australia to convince the public of the desirability of fluoridation, to promote its adoption by local health authorities, and to enlist the co-operation and support of the medical profession in a measure the safety and efficacy of which have "withstood exhaustive and painstaking analysis."⁶

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Correspondence

"Pharmacology and Dental Therapeutics"

Sir,

I have read the review of the tenth edition of "Pharmacology and Dental Therapeutics" by Dobbs and Prinz, published over the name of Mr. T. F. Pyke, in the August number of the *Dental Journal of Australia*.

While agreeing in the main with what he says of the work, I think he has been rather severe in saying that it fails to be of real use outside the U.S.A. Both my predecessor as Lecturer in Dental Materia Medica and Therapeutics, Dr. E. Stanley Wallace, and I have been careful to point out to students the

differences in nomenclature, quantities and dosages current in the U.S.A. and here.

There is no ideal book available to Australian dental students, but I do not consider there is sufficient evidence to prevent the inclusion of this book as one of the recommended textbooks for our students.

Yours faithfully,

LOTHIAN CRANE,

Lecturer, Materia Medica and Therapeutics, Faculty of Dentistry, University of Sydney.

22nd August, 1952.

News and Notes

H. R. Sullivan awarded Doctorate in Dental Science

The Senate of the University of Sydney has decided to admit Mr. Harold Richmond Sullivan, M.D.S., to the degree of Doctor of Dental Science.

Mr. Sullivan presented a thesis in support of his candidature for this degree entitled "Some Observations Upon the Formation of Carious Lesions in Human Dental Enamel." The Faculty of Dentistry advised the Senate that the thesis presented by Mr. Sullivan is an original contribution of distinguished merit adding to the knowledge and understanding of dental science.

Dr. Sullivan is a part-time Lecturer in the Faculty of Dentistry and Assistant Director of the Institute of Dental Research. He is at present studying in England, having been awarded a Nuffield Foundation Dominion Travelling Fellowship. Dr. Sullivan is expected to return to Sydney in November, 1952.

American Academy of Dental Medicine announces Mid-winter Meeting

The American Academy of Dental Medicine will hold its annual Mid-Winter Meeting and Luncheon at the Hotel Statler in New York City on Sunday, December 7, 1952, at 12.30 p.m. There will be a business meeting for members at 10.30 a.m.

From 2 p.m. to 5 p.m., following the Luncheon, there will be a symposium on "Pain," discussed by Drs. R. J. Behan, Theodore Blum and Samuel C. Miller, with Dr. Joseph L. Bernier acting as moderator. All members and interested dentists and physicians are cordially invited. For reservations and programme write to Dr. J. Englander, 2616 Hudson Blvd., Jersey City, N.J., or Dr. Samuel Turkenkopf, 196 Montclair Avenue, Newark, N.J., Co-Chairmen.

Emergency Dental Service — Christmas and New Year Holiday Period

The Office of the Association is anxious to arrange its usual emergency dental service over the Christmas-New Year holiday period and requests metropolitan members to advise as soon as practicable their willingness to attend emergencies over this period. The Executive wishes to stress generally the importance

of making reciprocal arrangements, if possible, with other practitioners in the event of absence from practice.

Honorary Dentist—Dalwood Home

The Dalwood Health Home at Seaforth, which cares for 60 children whose ages range from three to 12 years, is urgently in need of the services of a dentist. The Home is equipped with a full dental unit and would be glad to hear from any member of the Association who would be willing to attend as Honorary Dentist to the Home. Further details could be discussed with the Matron.

Graduate Dentist Required

Graduate dentist, male or female, of at least one year's standing wanted for ethical practice in large city close to metropolis. Opportunity to engage in group practice after suitable period. Apply to the Secretary, Australian Dental Association, N.S.W. Branch, 135 Macquarie Street, Sydney.

Northern Suburbs Dental Group

The Fifth Annual General Meeting of the Northern Suburbs Dental Group was held at the Hotel Mosman on Thursday, 24th July, 1952. Quite a number of representatives from other groups were present as guests of the Group.

Officers elected for the year were:

President: Mr. J. E. Spencer.

Vice-President: Mr. A. S. Henderson.

Secretary: Mr. R. Wilson.

Hon. Treasurer: Mr. N. Moore.

Committee: Mr. E. Baulman, Dr. L. G. Crane, Dr. R. Deakins, Mr. L. McKern, Mr. L. J. Noone, Mr. F. Thearle, and Mr. Ralph Tompson.

Western Suburbs Dental Group

The Annual General Meeting of the Western Suburbs Dental Group was held at "Wyoming," 14 Jersey Road, Strathfield, on Tuesday, 15th July, 1952.

The office-bearers for the year 1952-53 were elected as follows:

Patrons: President of the Dental Board; President of the Australian Dental Association, New South Wales Branch.

President: Mr. F. Dennett.

Past President: Mr. R. G. Leeder.

Vice-Presidents: Mr. H. C. Osborne, Mr. R. Y. Norton.

Hon. Secretary: Mr. R. Dennett.

Hon. Treasurer: Mr. D. J. Steele.

Committee: Mr. L. Kluver, Dr. R. M. Cloutier, Mr. H. Sengelman, Mr. B. Maundrell, Mr. W. Mitchell.

Flavelle Golf Cup, 1952

The competition for the Flavelle Golf Cup, 1952, took place at The Lakes Golf Club on 14th August, when 126 players hit off. All those present had a most enjoyable day.

The trophies were presented by the President of the New South Wales Branch of the Australian Dental Association to the following:

Flavelle Cup:

Winner: A. Burgess. 3 up on count back.

Runner-up: A. French. 3 up on count back.

Best Scratch Score:

D. Ratcliffe. 3 down.

Country Trophy:

J. Bartley. 2 down.

Handicaps:

12 and under: M. R. Bradford. 2 up.

13-15: J. Newman. Square.

16-18: F. Weir. 1 up.

4 Ball Best Ball:

Winners: N. Lock, A. Burgess. 6 up on count back.

Runners-up: T. Purtell, A. French. 6 up.

Consolation Prize:

A. H. Broadbent.

Association Activities

Australian Dental Association (Federal Newsletter No. 7)

The Federal Executive held a meeting on Saturday, 26th July, 1952, at the Federal Office in Sydney. Business transacted by the Officers on that occasion includes the following subjects of current interest.

PHARMACEUTICAL BENEFITS ACT.

The results of the interview with Sir Earle Page, Federal Minister for Health, by a delegation of Federal Officers on 3rd June, 1952, to which reference was made in Newsletter No. 6, were considered by the meeting.

Discussion took place on the preparation of the Association's proposals concerning the function of dentists under the proposed amendment and on a list of essential drugs in dental practice, as requested by the Minister, in view of the fact that amendments to the existing Act would be drafted in the latter part of this year.

REPATRIATION DENTAL TREATMENT.

The Vice-President, Dr. K. Adamson, reported that he had been informed by the Repatriation Commission in Melbourne that the matter of Repatriation dental fees had now been referred from the Treasury Office in Melbourne to the Department of the Treasury in Canberra. No indication as to finality in this matter has been received as yet.

IMPORT RESTRICTIONS ON DENTAL GOODS.

The President reported that, subsequent to the last meeting of the Executive, this question had received the full attention of the Federal Office and as a result of these investigations an extensive memorandum had been

very carefully compiled and presented personally by him to highest authorities of the Department of Trade and Customs at Canberra. Machinery for ascertaining and examining possible shortages caused by import restrictions was carefully reviewed and certain decisions reached.

The President expressed his satisfaction with the eminently constructive result of this conference.

The co-operation of State Branches as to advice and investigation of possible shortages will be sought.

BASIC PLAN FOR ORGANISATION OF CONGRESSES.

Following a resolution of the last Annual Meeting of the Federal Council that rules of procedure be drafted for the guidance of future Congress Commissions, a detailed memorandum which Dr. R. G. Williams of Melbourne had kindly offered to prepare on this subject was tabled. This comprehensive report was fully approved, with minor amendments, and will be referred to the next meeting of the Federal Council for confirmation.

FEDERAL CONSTITUTION.

It was reported to the meeting that the new Constitution had been printed and circulated to State Branches.

FLUORIDATION OF DRINKING WATERS.

Professor A. J. Arnott, the Association's representative on the National Health and Medical Research Council, submitted a report that at the 33rd Session of the Council the

following resolutions were recorded on this matter:—

Fluorine in Water Supplies: Acceptance of American Data:

The Council, whilst considering the applications for grants, had a lengthy discussion on the subject of fluoridation generally and upon further consideration decided to accept the American Data concerning the effect of fluoridation of water supplies upon the incidence of dental caries. A Resolution on the subject was passed by the Council (Resolution 2).

Resolution 2: Fluoridation of Domestic Water Supplies:

The Council, in view of the practice advocated by responsible American medical and dental authorities in respect of fluoridation of water as a factor in the control of dental caries, considers the addition of fluoride to water supplies to be a reasonable and safe measure, provided the addition of this substance is carried out under strict supervision and scientific control to ensure that the percentage does not exceed accepted standards laid down by the State Health Departments.

The use of this substance as a means of self-medication is strongly condemned.

The official endorsement of the principle of the fluoridation of drinking waters by this important scientific Council will give weight and authority to this subject as a method of caries control, and support the activity of the Association in promoting this measure.

CORRESPONDENT — JOURNAL OF THE AMERICAN DENTAL ASSOCIATION.

The President reported that Mr. Robert Harris, M.D.S., had expressed his willingness to accept this appointment as Australian Correspondent.

13TH AUSTRALIAN DENTAL CONGRESS, BRISBANE, JUNE 1-5, 1953.

A report of the progress of the Congress Commission was received and it was reported that the Honorary Secretary, Mr. N. E. Edney, had visited Brisbane to assist the Congress Commission on certain matters related to the planning for Congress.

The President indicated that he would be visiting that city in August and would take the opportunity of conferring with the Officers of the Congress Commission.

STANDARDS COMMITTEE.

Certain financial grants were considered and approved, to assist the valuable activities of this Committee.

ANNUAL MEETING OF THE FEDERAL COUNCIL.

It was agreed that the Annual Meeting should be held in Sydney on 18th October, 1952, and that the State Branches be formally advised in accordance with the requirements of the Constitution.

J. V. HALL BEST,
Federal President,
5th September, 1952.

Australian Dental Association (New South Wales Branch)

GENERAL MEETINGS.

July—Annie Praed Lecture.

The Ordinary General Meeting of the Association held on 22nd July, 1952, was the occasion of the Annie Praed Lecture for 1952. The lecturer was Dr. A. G. Rowell, who delivered a well-illustrated and stimulating lecture entitled "A Fundamental Approach to Recording Centric Relation in Full Denture Construction."

Tributes were paid to the memory of the late Dr. Annie Praed by the President, the lecturer and other members attending the meeting.

August.

The August General Meeting of the Association held on Tuesday, 26th August, 1952, heard a most interesting lecture by an interstate visitor, Mr. Bruce Lindsay, M.D.S.

(Adel.), who spoke to the members on "Dentistry for Children." It is hoped to publish a report of Mr. Lindsay's lecture in *The Dental Journal of Australia* in due course.

EXECUTIVE REPORT.

Industrial matters.

An initial hearing by the Industrial authorities in the matter of the Dental Assistants and Secretaries' (State) Award resulted in conferences between the parties to the Award. As a result of these conferences agreement has been reached on all matters with the exception of wages and the application of the Dental Assistants' Association for a shopping period. A greater spread of hours has been agreed upon and several other anomalies in the Award resolved.

The final hearing by the Industrial authorities will be on September 18th next, when the two matters in debate are to be decided.

Fees for hospital dentures.

Further action by the Association has resulted in a conference with the Minister for Health and the Hospitals Commission and it is hoped that a successful issue to our negotiations will be reported in the near future.

Fluoridation of drinking waters.

The resolutions of the National Health and Medical Research Council concerning fluoridation of drinking waters have been reported to the Executive by the Federal body, the text of which resolutions appears in the Federal Newsletter published elsewhere in this issue.

Subsequent to the receipt of these resolutions, the Executive has decided to make a further approach to the State health authorities concerning the fluoridation of drinking waters for the partial control of dental caries.

Annual Meeting of the Australian Dental Association.

Correspondence from the Federal Office of the Association sets down the Annual Meeting of the Federal Council of the Association for Saturday, 18th October, 1952.

The President, Dr. A. G. H. Lawes, and Dr. F. E. Helmore, Vice-President, have been appointed representatives of this State Branch at this meeting.

Preliminary consideration has been given to the matters upon the agenda of the meeting.

Dental Health Education Department.

Correspondence received from the Dental Board of New South Wales indicates that the Board has made available a further grant of £200 to this Department of the Association, making a total grant during 1952 of £400. The Association wishes to convey its thanks for this generous support.

The general activities of the Dental Health Education Department have been continued. In addition to these activities, it is proposed to publish shortly a further edition of 40,000 copies of "Healthy Mouths" and to prepare and publish a pamphlet on the topical applica-

tion of sodium fluoride and the fluoridation of drinking waters.

Research.

The Annual Dental Ball arranged by the Sydney University Dental Undergraduates' Association resulted in a profit of £100 which the undergraduates have generously donated to the Research Fund of the Association. The Undergraduates' Association is to be congratulated on this result and the appreciation of the Association conveyed to them.

A surplus of £19/16/- resulting from the Annual Sports Day of the Association has also been transferred to this Fund.

The Executive is pleased to report that Dr. B. Lilienthal, who has had the active support of the Association through its Research Fund, has obtained his Ph.D. at Oxford, and has recently returned to Australia. The knowledge he has gained will materially assist the progress of dental research in this country.

Benevolent and Provident Fund.

This Fund has benefited from generous donations of waste amalgam from individual members and a donation of 15 guineas from the Western Suburbs Dental Group. The Group and those members of the Association who have contributed are thanked for their support.

MEMBERSHIP.

Full members.

Alexander, Barrie John, B.D.S.; Bailey, Maurice Cecil, B.D.S.; Benson, John Douglas, B.D.S., D.D.S.; Bowerman, Ronald, B.D.S.; Bugden, Martin Bernard, B.D.S.; Butt, Sydney Graham, B.D.S.; Cumming, Donald Joseph, B.D.S.; Elliott, Gilbert Rowley Roxburgh, B.D.S.; Rogers, Olbert William, B.D.S.; Rossiter, David John, B.D.S.; Stratton, John Erith, B.D.S.

Deceased.

Eyles, Harry Heber; Fahl, Barron Beresford.

Australian Dental Association (New South Wales Branch)

DIRECTORY OF MEMBERSHIP AS AT 31ST AUGUST, 1952.

ABBREVIATIONS.

KEY TO UNIVERSITY DENTAL SCHOOLS AND COLLEGES.

Adl.	—University of Adelaide.
Alb.	—Alberta University, Canada.
Br.	—University of Bristol.
Calif.	—University of California.
Chic.C.D.	—Chicago College of Dentistry.
Ed.	—University of Edinburgh.
Eng.	—England.
F.A.C.D.	—Fellowship of the American College of Dentists.
F.I.C.D.	—Fellowship of the International College of Dentists.
Harv.	—Harvard University Dental School.
L.	—University of Leeds.
Melb.	—University of Melbourne.
Minn.	—University of Minnesota.
N.Z.	—New Zealand.
N.U.	—Northwestern University, Chicago.
Ont.	—University of Ontario.
Penn.	—University of Pennsylvania.
Phil.	—Philadelphia Dental College.
Pitt.	—University of Pittsburgh.
Q'ld.	—University of Queensland.
R.C.S. (Eng.)	—Royal College of Surgeons, England.
Syd.	—University of Sydney.
Tor.	—University of Toronto.
T.U.Phil.	—Temple University, Philadelphia.

Note: The numerals following the street address indicate the postal zone number.

EXPLANATORY NOTE.

The list of members of the Australian Dental Association, New South Wales Branch, as at 31st August, 1952, is set out below. Please check your name for spelling and address; forward any correction to the Secretary, Australian Dental Association, New South Wales Branch, 135-137 Macquarie Street, Sydney. Retain this issue for future reference.

Members will note that the Directory has been divided into Sydney Metropolitan and Country Members. Country Members have been classified under divisional areas and a cross index of towns in such divisional areas has been added to facilitate reference. Members outside divisional areas have also been listed under the appropriate heading.

SYDNEY METROPOLITAN MEMBERS.

- A.
- Abbott, Bruce, 149 Malabar Rd., South Coogee, B.D.S. (Syd.).
- Adair, Cecil, 243 Elizabeth St., Sydney, L.D.S., R.C.S. (Eng.), D.D.S. (Minn.).
- Adey, Alfred, 134 Glebe Point Rd., Glebe, B.D.S. (Syd.).
- Aitken, James Alexander, 44a Railway Pde., Burwood, B.D.S. (Syd.), D.D.S. (N.U.).
- Aitken, Malcolm John, 28 Newton Rd., Strathfield, B.D.S. (Syd.), D.D.S. (N.U.).
- Alderman, Frederick John, 99 The Grand Pde., Brighton le Sands.
- Alexander, Barrie John, 2 Illawarra St., Mosman, B.D.S. (Syd.).
- Alexander, Gordon Merton, 229 Macquarie St., Sydney.
- Alcock, Brian Grant, 30 Railway St., Chatswood, M.D.S. (Syd.).
- Alcock, Bruce Harry, United Dental Hospital, Chalmers St., Sydney, B.D.S. (Syd.).
- Allen, Aleck Andrew, 27 Railway Pde., Lakemba, B.D.S. (Syd.).
- Allen, George Kingsmill, 93a Blaxland Rd., Ryde.
- Allen, Wallace Bruce, 21 George St., Marrickville, B.D.S. (Syd.).
- Allen, Wallace Carlingford, 400 Marrickville Rd., Marrickville.
- Alsaker, Norman Swend, 175 Macquarie St., Sydney, D.D.S. (Pitt.).
- Altman, Frederick Siegfried, Jannali Av., Jannali, B.D.S. (Q'ld.).
- Alvarez, John Gilbert, 4 Werambie St., Woolwich, B.D.S. (Syd.).
- Anderson, Colin Eric Millar, 650 New South Head Rd., Rose Bay, B.D.S. (Syd.), D.D.S. (Tor.).
- Anderson, Donald Alfred, 53a The Corso, Manly, B.D.S. (Syd.).
- Anderson, Patrick Joseph, 28 Lamascotte Av., Concord, B.D.S. (Syd.).
- Andrews, William Robert, 185 Elizabeth St., Sydney.
- Annetts, Allan Charles, 204 Church St., Parramatta, B.D.S. (Syd.).
- Arkins, Errol Dudley Blatchford, United Dental Hospital, Chalmers St., Sydney, B.D.S. (Syd.).
- Armstrong, Allan Gustave, 185 Elizabeth St., Sydney.
- Arnold, John James, "Greycliffe," Pymble Av., Pymble, B.D.S. (Syd.).
- Arnold, Lionel Rupert, C/o. United Dental Hospital, Chalmers St., Sydney, B.D.S. (Syd.).
- Arnott, Alwyn James, United Dental Hospital of Sydney, Chalmers St., Sydney, D.D.S. (Syd.), F.A.C.D., F.I.C.D., F.D.S., R.C.S. (Eng.).
- Aroney, Theo, 475 Victoria Av., Chatswood, B.D.S. (Syd.).
- Aroney, Victor, 475 Victoria Av., Chatswood, B.D.S. (Syd.).
- Assheton-Chin, Harold Paul, 175 Macquarie St., Sydney, B.D.S. (Syd.), D.M.D. (Harv.).
- *Atwill, Milton Spencer, C/o. W.J. Investments Pty. Ltd., A.P.A. Chambers, 53 Martin Place, Sydney, B.D.S. (Syd.).
- Ayres, Eric Leslie, Bigge St., Liverpool.

*Restricted member.

†Qualified member.

‡Modified leave of absence.

B.

Backus, George Joseph Henry, 134 Georges River Rd., Croydon Park. B.D.S. (Syd.).
 Baer, Leopold, 185 Elizabeth St., Sydney. B.D.S. (Syd.).
 Bailey, Maurice Cecil, 233 Wardell Rd., Dulwich Hill. B.D.S. (Syd.).
 Bailey, Peter Bryan Elgee, 67 Castlereagh St., Sydney. B.D.S. (Syd.).
 Bain, Ronald Gordon, 149 Rowe St., Eastwood. B.D.S. (Syd.).
 Baird, John Speir, 175 Macquarie St., Sydney. D.D.S. (Syd.).
 Barber, Eric Frederic Thomas, "Hexham," Checkley St., Abbotsford. M.D.S. (Syd.).
 Bardsley, Raymond, 41c New South Head Rd., Vaucluse. B.D.S. (Syd.).
 Barham, Charles, 175 Macquarie St., Sydney.
 Barham, Gordon Colley, 340 Victoria Rd., Drum-moyne. B.D.S. (Syd.).
 Barnes, Reginald, 240 Victoria Av., Chatswood. B.D.S. (Syd.).
 Barnes, Reginald Kevin, 240 Victoria Av., Chatswood. B.D.S. (Syd.).
 Barnett, Andrew Elgar Vern, Cnr. Whitton Rd. and Critchett St., Chatswood. B.D.S. (Syd.).
 Barnett, Jeffrey Bruce, C/o Gordon F. Young, 117 King St., Newtown. B.D.S. (Syd.).
 Bashford, Frederick Frank, 76 Fitzroy St., Burwood.
 Basil Jones, Owen Brierley, 175 Macquarie St., Sydney. B.D.S. (Syd.).
 Bastian, Earle Harold, Challis House, Martin Place, Sydney. M.D.S. (Syd.).
 Baulman, Edmund John, Cnr. Miller and Ridge Sts., Nth. Sydney. B.D.S. (Syd.).
 Baulman, George Edmund, 173 Alison Rd., Randwick. B.D.S. (Syd.).
 Beasley, Peter Robert Noble, Cnr. Sloane and Gower Sts., Summer Hill. B.D.S. (Syd.).
 Beckett, Leonard Sothorn, No. 1 "Creston," Aston Gardens, Bellevue Hill. M.D.S. (Syd.).
 Begg, Stanley James, 7 Falcon St., Crow's Nest. B.D.S. (Syd.).
 Bellamy, Juan Gordon, C/o Aust. & N.Z. Bank, Cnr. George St. & Martin Place, Sydney. B.D.S. (Syd.).
 Bennett, Stanley Middleby, Cnr. Pennant Hills Rd. & The Crescent, Pennant Hills. B.D.S. (Syd.).
 Benson, John Dunn, 139 Mowbray Rd., Wollongong. D.D.S. (Penn.).
 Bernal-Honey, Mrs. Norah Elizabeth, 75 New South Head Rd., Vaucluse. B.D.S. (Syd.).
 Berry, John, Ware St., Fairfield.
 Berry, Leslie Daniel, 149 Macquarie St., Sydney.
 Berry, Robert Allen, 108 Longueville Rd., Lane Cove. B.D.S. (Syd.).
 Bertram, Cedric Charles, 50 East Esplanade, Manly.
 Best, John Victor Hall, 135 Macquarie St., Sydney. B.D.S. (Syd.).
 Best, Edwin Henry, 235 Macquarie St., Sydney. D.D.S. (Penn.).
 Bevan, Henry, 197 Rowe St., Eastwood.
 Biddle, Albert Alfred, Victoria Av., Chatswood.
 Binns, Alan Stanley, 7 Belgrave St., Kogarah. B.D.S. (Syd.).
 Binns, Frederick John, Highworth Av., Bexley. B.D.S. (Syd.).
 Binns, James Stanley, Belgrave St., Kogarah.
 Binns, Kendal Oswald, Room 603, M.U.I.O.O.F. Bldg., 185 Elizabeth St., Sydney. B.D.S. (Syd.).
 Binns, William Frayling, Cnr. Macquarie and Marsden Sts., Parramatta. B.D.S. (Syd.).
 Black, Walter Richard, Flat 28, "Winter-garden," 57 Darlinghurst Rd., King's Cross. B.D.S. (Syd.).
 Blackwell, Clive, B.M.A. House, 135 Macquarie St., Sydney. B.D.S. (Syd.).
 Blum, Kurt, 96 Market St., Sydney. B.D.S. (Q'ld.).
 Boa, John Clifford, 123 Oxford St., Sydney.
 Bogz, Dudley Harrington, 108 Longueville Rd., Lane Cove.
 Boguslawski, Henryk, 15 Walter St., Bondi Junction. B.D.S. (Syd.).
 Bohringer, John Felix, 1 Pittwater Rd., Gladesville.

Booth, Rex Edward Tudor, Kingsway, Caringbah. B.D.S. (Syd.).
 Borthwick, Hugh Douglas, 107 Pitt St., Sydney.
 Boulton, Keith Roy, 149 Victoria Rd., Drum-moyne. B.D.S. (Syd.).
 Bowerman, Ronald, 930 Botany Rd., Mascot. B.D.S. (Syd.).
 Boyd, Russell Thomas Frederick, 15 Newcastle St., Rose Bay. B.D.S. (Syd.).
 Bradford, Murray Reginald, 11 Hill St., Roseville. B.D.S. (Syd.).
 Bradshaw, Ernest Hardy, 218 Marrickville Rd., Marrickville.
 Brassington, Miss Bessie, T. & G. Bldg., Park and Elizabeth Sts., Sydney. B.D.S. (Syd.).
 Briffa, Arthur Joseph, Flat 2, 10 Belmore St., Burwood. B.D.S. (Syd.).
 Briffa, Joseph, 251 Oxford St., Bondi Junction.
 Broadbent, Aubrey Henry, 230 Miller St., Nth. Sydney. B.D.S. (Syd.).
 Brodie, Malcolm Maxwell, 7 Railway Av., Wah-roonga. B.D.S. (Syd.).
 Brogan, Roy Francis, 292 Pacific Highway, Crow's Nest. B.D.S. (Syd.).
 Brogan, Stephen Thomas, 288 Clovelly Rd., Clovelly. B.D.S. (Syd.).
 Broughton, Frank William, 193 Macquarie St., Sydney. B.D.S. (Syd.).
 Brown, Alfred Martin, 30 Curranulla St., Cronulla.
 Brown, Walter Benjamin, 193 Macquarie St., Sydney. B.D.S. (Syd.).
 Buddie, Kenneth Prestage, Cnr. Grove and Bal-last Point Rds., Birchgrove.
 Bugden, Martin Bernard, 32 Darley Rd., Bardwell Park. B.D.S. (Syd.).
 Bull, James Robert, 39 Great North Rd., Five Docks.
 Bullock, Peter Howard, 238 Cabramatta Rd., Cabramatta. B.D.S. (Syd.).
 Bullus, Malcolm Henry Robert, 322 Victoria St., King's Cross. B.D.S. (Syd.).
 Burgess, Alan Sanday, Suite 103, T. & G. Bldg., Park St., Sydney. M.D.S. (Syd.).
 Burgess, Charles Leslie, 185 Elizabeth St., Sydney. D.D.S. (Penn.).
 Burns, Rex Francis, 23 Shepherd Rd., Artarmon. B.D.S. (Syd.).
 Burns, Richard Phillips, 201 Victoria Rd., Cnr. Cowell St., Gladesville.
 Burton, Frederick Shaw, 17 Railway Tce., Lewisham. B.D.S. (Syd.).
 Butt, Herbert John, 551½ King St., Newtown. B.D.S. (Syd.).
 Butt, Robert Josiah, 551 King St., Newtown.
 Butt, Sydney Graham, 12 Gordon St., Mosman. B.D.S. (Syd.).
 Byrne, Noel Hamlyn, C/o Dr. Warren, 624 Military Rd., Mosman. B.D.S. (Syd.).
 Byrne, William Michael, 289 Canterbury Rd., Canterbury. B.D.S. (Syd.).

C.

Caisley, Kenneth Henry, 707 T. & G. Bldg., Park St., Sydney. B.D.S. (Syd.).
 Caisley, Thomas Norman, 247 Elizabeth St., Sydney.
 Calen, Kevin Montague, 16 Rochester St., Homebush. B.D.S. (Syd.).
 Cameron, David Agar, 44 View St., Chatswood. M.D.S. (Syd.).
 Campbell, Edmund Wellington, 127 King St., Sydney. B.D.S. (N.Z.).
 Carberry, Francis Joseph, T. & G. Bldg., Elizabeth St., Sydney.
 Carfrase, John Swinton, 10 Auburn Rd., Auburn. B.D.S. (Syd.).
 Carolan, Barry Joseph, 24 Belgrave St., Kogarah. B.D.S. (Syd.).
 Carr, Allan George, 113 Parramatta Rd., Concord. B.D.S. (Syd.).
 Carrigan, Neil Lawrence, 159 Beamish St., Campsie. B.D.S. (Syd.).
 Carter, Harold Rufus, 6 Dickson St., Haberfield.
 Carver, Warren John, 96 Hampden Rd., Artarmon. B.D.S. (Syd.).
 Cassim, Michael Ogden, 278 Anzac Pde., Kensington. B.D.S. (Syd.).
 Chandler, Boyd, 17 Eastern Av., Dover Heights. B.D.S. (Syd.).

*Restricted member.

†Qualified member.

‡Modified leave of absence.

Chapman, Edwin Charles, C/o 34 Frenchman's Rd., Randwick, B.D.S. (Syd.).
 Chapman, Milton, 297 Elizabeth St., Sydney.
 Chapman, Stuart Morton, Box 17, P.O., Lane Cove, B.D.S. (Syd.).
 Chapple, Royston Ernest, 291 Elizabeth St., Sydney, B.D.S. (Syd.).
 Charlesworth, Ivor Albert, 234 Parramatta Rd., Stanmore, B.D.S. (Syd.).
 Charlton, Garry, 2 May St., Hornsby, B.D.S. (Syd.).
 Chesher, Wallace Bradford, 178 Concord Rd., Nth Strathfield.
 Chisholm, Ivor Archibald, 101 Rawson St., Auburn.
 Clapp, Cedric Norman, "St. Heliers," Gurney Crescent, Seaforth, B.D.S. (Adl.).
 Clapson, Howard Charles, 242 Pacific Highway, Hornsby.
 Clark, Albert Edgar, Sailor Bay Rd., North Bridge, B.D.S. (Syd.), D.D.S. (Penn.).
 Clark, John Alan, T. & G. Bldg., Park St., Sydney, B.D.S. (Syd.).
 Clark, John Peter, 173 Sailor Bay Rd., North Bridge, B.D.S. (Syd.).
 Clark, Noel James, St. Johns Pk., Church St., Parramatta.
 Clarke, Edward Evers, 185e Burwood Rd., Burwood.
 Clarke, Goodhand, 27 William St., Earlwood.
 Clarke, Howard Ludlow, Drummoynne Chambers, Lyons Rd., Drummoynne, B.D.S. (Syd.).
 Claydon, Thomas Gerard, Cnr. Ramsgate Av. and Campbell St., Ramsgate.
 Cliff, Clarence Halse, 175 Macquarie St., Sydney.
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- Martin, Gibson, 8 Smart St., Fairfield. B.D.S. (Syd.).
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- Matthews, Cecil Brunzen, 517 New South Head Rd., Double Bay.
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- Melocco, Anthony Albert, 39 Johnston St., Anandale. B.D.S. (Syd.).
- Menzies, Jack Murray, 47 Greengate Rd., Killara. B.D.S. (Syd.).
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- Miles, Ronald Keith, 24 Pittwater Rd., Manly. B.D.S. (Syd.).
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- Miller, Claude Frederick, 13 Bridge St., Epping.
- Miller, William Augustus, Whispering Sands, Paradise Beach, Clairville, via Manly.
- Mills, Arthur James, 14 City Rd., Sydney.
- Mills, George Newnham, 14 City Rd., Sydney.
- Milton, John Ernest, 81 Elizabeth St., Sydney. B.D.S. (Syd.).
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- Mitchell, Allan Edward Sturdee, 8 George St., Hornsby. B.D.S. (Syd.).
- Mitchell, William Albert, 144 Concord Rd., North Strathfield.
- Mitchell, William Lancelot, 57 Frenchman's Rd., Randwick.
- Mobbs, Edwin Alan, 34 Frenchman's Rd., Randwick. B.D.S. (Syd.).
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- Moir, Alexander Carmichael, 16 Carlton St., Granville.
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- Moore, Neil Gorst, 789 Pacific Highway, Chatswood. B.D.S. (Syd.).
- Moore, Norman, 127 King St., Sydney.
- Moore, Ronald, Cnr. St. John's Av. and Pacific Highway, Gordon. D.D.S. (Tor.), M.D.S. (Syd.).
- Moroney, Leonard, 167 Pacific Highway, Hornsby.
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 New, Douglas Charles, 53a The Corso, Manly. B.D.S. (Syd.), D.D.S. (N.U.), L.D.S., R.C.S. (Eng.).
 New, Stanley, 248 Willoughby Rd., Naremburn.
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 Newman, John Arnold, 25 Ryedale Rd., West Ryde. B.D.S. (Syd.).
 Newman, Raymond Leslie, Old Northern Rd., Castle Hill. B.D.S. (Syd.).
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O.

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 Pinn, Sidney Phillip, 85 Railway St., Rockdale.
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 Procter, Darrell William Albert, 388a Military Rd., Cremorne Junction. B.D.S. (Syd.).
 Procter, Raymond Leslie, 388a Military Rd., Cremorne Junction.
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 Puz, Raymond Paul, 117 Liverpool St., Sydney. B.D.S. (Syd.).
 Pyke, Thomas Frederick, 13 Havilah St., Chatswood. B.D.S. (Syd.).

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R.

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 Rossiter, David John, 10 Warners Av., Bondi, B.D.S. (Syd.).
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 Stewart, Leslie Tennyson, 445 Darling St., Balmain.
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T.

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- Taylor, Harold Norman, Belmore Rd., Randwick. D.D.S. (Penn.).
- Taylor, John, Morris, 29 Arthur St., Hornsby. B.D.S. (Syd.).
- Taylor, Reginald Francis, 165 Merrylands Rd., Merrylands. B.D.S. (Syd.).
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- Thomas, Ernest Ingram, 322 Sydney Rd., Balgowlah.
- Thomas, Gladstone Harold Herbert, 204 Spit Rd., Mosman.
- Thompson, Arthur Gordon, Avoca Golf Club, Avoca St., Randwick. B.D.S. (Syd.).
- Thompson, Ronald Arthur Sydney, 37 Howard St., Homebush. B.D.S. (Syd.).
- Thompson, William Ronald, 317 Anzac Pde., Kingsford. B.D.S. (Syd.).
- Thomson, William Andrew, 149 Victoria Rd., Gladesville.
- Thorpe, Thomas Graham, T. & G. Bldg., Park St., Sydney. B.D.S. (Syd.).
- Till, Edmund Spencer, Boundary St., Sydney.
- Titley, Keith Pelgate, 128a Norton St., Leichhardt. B.D.S. (Syd.).
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- Tomlinson, Frank, 102 Ramsay Rd., Haberfield.
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- Trembath, Albert Wilbur, Culwulla Chambers, 67 Castlereagh St., Sydney. B.D.Sc. (Q'ld).
- Tucker, Albert Roy, 231 Church St., Parramatta.
- Tucker, William Robert, 73 Sutherland St., Cremorne.
- Turner, Bryan Norman, 58 Anzac Ave., Collaroy. B.D.S. (Syd.).
- Turner, John Hull, 43 St. George's Cres., Drumoyne. B.D.S. (Syd.).
- Twigg, Clarence Leonard, Brown St., Ashfield.
- Twigg, William Leonard, Brown St., Ashfield.
- U.**
- Udall, George Gordon, 1103 Botany Rd., Mascot. B.D.S. (Syd.).
- Underwood, Haughton Thomas, 1 William St., Turramurra.
- Underwood, Roy Cornish, T. & G. Bldg., 49 Park St., Sydney.
- Urquhart, Ernest James Alexander, T. & G. Bldg., Elizabeth St., Sydney.
- V.**
- Van Lubeck, Henry, 81 Ben Boyd Rd., Neutral Bay. D.D.S. (T. Phil.).
- Veden, Keith, 175 Macquarie St., Sydney.
- Vyden, Rex Kirkham, Wintergarden Flats, King's Cross.
- W.**
- Wade, Dowell Edmund, 235 Macquarie St., Sydney. B.D.S. (Syd.).
- Waine, Donald Asquith, 2 Kingsway, Wentworthville, 1W. B.D.S. (Syd.).
- Wainwright, David Victor Ross, 8 George St., Broadway, Sydney.
- Wakely, Frederick, Commonwealth Bank Bldg., 377 Anzac Pde., Kingsford. B.D.S. (Syd.). D.D.S. (Tor.).
- Walker, David Alfred, 64 Cheltenham Rd., Croydon. B.D.S. (Syd.).
- Walker, Reginald Hannam Henderson, 239 Trafalgar St., Petersham. B.D.Sc. (Q'ld).
- Wall, Cecil Henry, 79 Consett St., Concord West.
- Wall, Leo Michael Dominic Mark, 1 John St., Lidcombe.
- Wallace, John Cecil, 22 Adelaide St., Belmore. B.D.S. (Syd.).
- Wallis, Norman Bruce, 591 Kingsway, Miranda. B.D.S. (Syd.).
- Wallman, John, 16 Woniora Rd., Hurstville.
- Walsh, Paul Joseph, 16 Bathurst St., Woolahra. B.D.S. (Syd.).
- Walters, Allan Gordon, 345 Marrickville Rd., Marrickville.
- Ward, Alfred John, C/o H. D. Marks, 127 King St., Sydney.
- Ward, Kenneth Coulson Dendy, 235 Macquarie St., Sydney. B.D.S. (Syd.).
- Warton, Kenneth Campbell, Bank Chambers, The Esplanade, Manly.
- Watson, Alan Oliver, 175 Macquarie St., Sydney. B.D.S. (Syd.).
- Watson, Cyril Ross, Lot 232, Mary Pde., Rydalmere. B.D.S. (Syd.).
- Watters, Allan Robert, 148 Rowe St., Eastwood. B.D.S. (Syd.).
- Wayland, Kevin Philip, 2 Butlers Rd., Hurstville. B.D.S. (Syd.).
- Wayland, Samuel Ernest, 278 Oxford St., Paddington.
- Wayland, Samuel Hugh, 278 Oxford St., Paddington. B.D.S. (Syd.).
- Wearn, Walter John, Culwulla Chambers, Castlereagh St., Sydney. D.M.D. (Harv.), D.D.Sc. (Syd.).
- Webb, Ernest Anthony Foxton, 16a Avalon Pde., Avalon Beach. B.D.S. (Syd.).
- Webb, Kenneth Robert, 101 Macquarie St., Parramatta. B.D.S. (Syd.).
- Webster, Allen Wayne, 159 Beamish St., Campsie. B.D.S. (Syd.).
- Weir, Edwin Ernest, Bondi Rd., Bondi.
- Weir, Ellice Marie, 158 Bondi Rd., Bondi. B.D.S. (Syd.). D.D.S. (Tor.).
- Weir, Fred, Caldwell, Cnr. Ware and Harris Sts., Fairfield. B.D.S. (Syd.).
- Weir, Irvine John, 158 Bondi Rd., Bondi. B.D.S. (Syd.). D.D.S. (Tor.).
- Wells, Donald Frederick, 7a Waitovu St., Balmoral. B.D.S. (Syd.).
- West, George, Cnr. Auburn Rd. and South Pde., Auburn.
- White, Charles Sherring, 55 Fourth Av., East Willoughby. B.D.S. (Syd.).
- Whitty, James Anthony, 242 Military Rd., Rose Bay. B.D.S. (Syd.). D.D.S. (Tor.).
- Wilkinson, Ronald Lyle, Flat 11, 28 Kidman St., Coogee. B.D.S. (Syd.).
- Williamson, Joseph Humphrey, 10 Cornelia Rd., Toongabbie, 1W.
- Willis, John Hubert, 1a Brunswick Pde., Ashfield. B.D.S. (Syd.).
- Wilson, John Traversa, Burwood Rd., Burwood.
- Wilson, Gordon John, 35 Myrna Rd., Strathfield.
- Wilson, John Henry, 25 Hopetoun Av., Mosman. D.D.Sc. (Syd.).
- Wilson, John Stanley, 968 Victoria Rd., West Ryde.
- Wilson, Lindsay Gilmore, 175 Macquarie St., Sydney. B.D.S. (Syd.). D.D.S. (Penn.).
- Wilson, Richard Avonmore, 216 Miller St., Nth. Sydney.
- Wilson, Robert William, 428 Forest Rd., Bexley. B.D.S. (Syd.).
- Wilson, Terence Joseph Francis, 27 Spit Rd., Mosman. B.D.S. (Syd.).
- Winchester, Macauley Killick, 255 Oxford St., Bondi Junction. B.D.S. (Syd.).
- Winning, William Theodore, 5 Butlers Rd., Hurstville. B.D.S. (Syd.).
- Withycombe, Geoffrey Morse, 175 Macquarie St., Sydney. B.D.S. (Syd.).
- Wood, Marion John, 3 Gallard St., Ryde. B.D.S. (Syd.).
- Wood, Philip Boyd, 5 Grandview St., Pymble. B.D.S. (Syd.).
- Y.**
- Young, Gordon Frederick, 117 King St., Newtown.

*Restricted member.

†Qualified member.

‡Modified leave of absence.

COUNTRY MEMBERS.

SYMBOLS INDICATING DIVISIONAL AREAS.

(B.M.)	—Blue Mountains Divisional Area.
(F.N.)	—Far North Divisional Area.
(N.H.R.)	—Newcastle & Hunter River District Divisional Area.
(N.N.W.)	—North & North West Divisional Area.
(N.E.)	—North Eastern Divisional Area.
(S.)	—Southern Divisional Area.
(S.C.)	—South Coast Divisional Area.
(S.T.)	—Southern Tablelands Divisional Area.
(W.)	—Western Divisional Area.

INDEX OF TOWNS IN WHICH MEMBERS ARE PRACTISING, WITH DIVISIONAL SYMBOLS.

Adamstown (N.H.R.).
Albury (S.).
Armidale (N.N.W.).
Austinmer (S.C.).

Ballina (F.N.).
Barraba (N.N.W.).
Bathurst (W.).
Bega (S.C.).
Bellingen (N.E.).
Belmont (N.H.R.).
Berrigan (S.).
Blackheath (B.M.).
Blacktown (B.M.).
Blayney (W.).
Boggabri (N.N.W.).
Bombala (S.T.).
Boorowa (S.T.).
Bowral (S.T.).
Braidwood (S.T.).
Broadmeadow (N.H.R.).
Broken Hill.
Bulli (S.C.).
Byron Bay (F.N.).

Camden.
Campbelltown.
Canberra (S.T.).
Canowindra (W.).
Casino (F.N.).
Casnoch (N.H.R.).
Cobar (W.).
Coff's Harbour (S.E.).
Coff's Harbour Jetty (N.E.).
Condobolin.
Coolamon (S.).
Cooma (S.T.).
Coonabarabran (N.N.W.).
Coonamble (W.).
Coolamundra (S.).
Corowa (S.).
Cowra (W.).
Crookwell (S.T.).

Dapto (S.C.).
Deniliquin (S.).
Derrigo (N.E.).
Dubbo (W.).
Dunedon (N.N.W.).
Dungog (N.H.R.).

East Maitland (N.H.R.).
Ettalong (N.H.R.).
Engowra (W.).
Forbes (W.).

Gilgandra (W.).
Glen Innes (N.N.W.).
Gloucester (N.E.).
Gosford (N.H.R.).
Goulburn (S.T.).
Grafton (F.N.).
Grenfell (W.).
Griffith (S.).
Gulgong (W.).
Gundagai (S.).
Gunnedah (N.N.W.).
Guyra (N.N.W.).

Hamilton (N.H.R.).
Harden (S.).
Hay (S.).
Henty (S.).

Ingleburn.
Inverell (N.N.W.).
Junee (S.).

Katoomba (B.M.).
Kempsey (N.E.).
Kiama (S.C.).
Kurri Kurri (N.H.R.).
Kyogle (F.N.).

Lake Cargelligo (W.).
Leeton (S.).
Leura (B.M.).
Lismore (F.N.).
Lithgow (B.M.).
Lockhart (S.).

Maclean (F.N.).
Macksville (S.).
Maitland (N.H.R.).
Mayfield (N.H.R.).
Milton (S.C.).
Molong (W.).
Moree (N.N.W.).
Moss Vale (S.T.).
Mudgee (W.).
Mullumbimby (F.N.).
Murwillumbah (F.N.).
Muswellbrook (N.H.R.).

Narrabri (N.N.W.).
Narrandera (S.).
Narromine (W.).
Newcastle (N.H.R.).
New Lambton (N.H.R.).
Nowra (S.C.).

Orange (W.).

Palm Beach.
Parkes (W.).
Peak Hill (W.).
Penrith (B.M.).
Port Kembla (S.C.).
Portland (B.M.).
Port Macquarie (N.E.).

Queanbeyan (S.T.).
Quirindi (N.N.W.).

Raymond Terrace (N.H.R.).
Richmond (B.M.).
Riverstone (B.M.).
St. Mary's (B.M.).
Scone (N.H.R.).
Singleton (N.H.R.).
South Grafton (F.N.).
Springwood (B.M.).
Stockton (N.H.R.).
Stroud (N.H.R.).

Tamworth (N.N.W.).
Taree (N.E.).
Temora (S.).
Tenterfield (N.N.W.).
The Entrance (N.H.R.).
Thirroul (S.C.).
Toronto (N.H.R.).
Tumbarumba (S.).
Tumut (S.).
Tweed Heads (F.N.).

Uralla (N.N.W.).

Wagga Wagga (S.).
Walcha (N.N.W.).
Walgett (N.N.W.).
Wallasey (N.H.R.).
Warralda (N.N.W.).
Warren (W.).
Wauchope (N.E.).
Wellington (W.).
Wentworth.

West Maitland (N.H.R.).
West Tamworth (N.N.W.).
West Wyalong (W.).
Windsor (B.M.).
Wingham (N.E.).
Wollongong (S.C.).
Woomna (S.C.).
Woy Woy (N.H.R.).

Yass (S.T.).
Young (S.).

BLUE MOUNTAINS DIVISIONAL AREA.

Anker, John Harris, 16 Woodruffe St., Penrith, 1W. B.D.S. (Syd.).
Bateman, Edward Patrick, Katoomba St., Katoomba, 2W. (B.M.).
Bentley, Harold John, Main St., Katoomba, 2W. B.D.S. (Syd.).
Buchanan, William Roy, Katoomba St., Katoomba, 2W. (B.M.).
Carroll, John, 132 Main St., Lithgow, 2W. (B.M.). B.D.S. (Syd.).

Clark, Peter Thomas, Dover Hill, Station St., Blackheath, 2W. B.D.S. (Syd.).
Droulers, Dominique Maurice, 8a Wolgan St., Portland, 6W. B.D.S. (Syd.).
Griffin, Michael Joseph, 438 High St., Penrith, 1W. (B.M.). B.D.S. (Syd.).
Hutchinson, Kelvin Sandford, 130 The Mall, Leura, 2W. (B.M.). B.D.S. (Syd.), D.D.S. (Tor.).
Hutchinson, William Frank, Station St., Blackheath, 2W. (B.M.).

*Restricted member.

†Qualified member.

‡Modified leave of absence.

Jackson, Stanley Livingstone, 5 Katoomba St., Katoomba, 2W. (B.M.).
 Lauder, James Gordon, 427 High St., Penrith, 1W. (B.M.). B.D.S. (Syd.).
 McEwan, Donald Wilson, 139 Windsor St., Richmond, 1W. (B.M.). B.D.S. (Syd.).
 McEwan, Malcolm Alexander, 139 Windsor St., Richmond, 1W. B.D.S. (Syd.).
 Mathews, Raleigh Robert, 208 George St., Windsor, 1W. (B.M.). B.D.S. (Syd.).
 Nicoll, Thomas Gregory, Queen St., St. Marys, 1W. (B.M.). B.D.S. (Syd.).
 Peterson, Albert James Wylie, 40a Main St., Lithgow, 2W.
 Roseby, Kenneth William, Station House, Blacktown, 1W. (B.M.). B.D.S. (Syd.).
 Stacy, Geoffrey Colman, 53 Mill St., Riverstone, 1W. B.D.S. (Syd.).
 Stern, Barry, 72 Katoomba St., Katoomba, 2W. (B.M.). B.D.S. (Syd.).
 Tuck, Henry Adams, Bathurst Rd., Springwood, 2W. (B.M.).
 Weingarth, John, 287 George St., Windsor, 1W. B.D.S. (Syd.).
 Williams, Thomas Isaac Cornwall, P.O. Box 14, Springwood, 2W. (B.M.).

FAR NORTH DIVISIONAL AREA.

Bennett, Hubert Mervyn Scott, Bay St., Tweed Heads, 4C. (F.N.). B.D.S. (Syd.).
 Bice, John Allan, Box 139, P.O., Casino, 4C. (F.N.). B.D.S. (Syd.).
 Booth, Clifford Stuart, Star Court Arc., Molesworth St., Lismore, 4C. (F.N.). B.D.S. (Syd.).
 Clinton, David Lorimer, 104 Fitzroy St., Grafton, 3C. B.D.S. (Syd.).
 Croxon, William Ewart, 152 Molesworth St., Lismore, 4C. (F.N.).
 Dagg, Keith Miles, 163 Barker St., Casino, 4C. (F.N.). B.D.Sc. (Q'ld).
 Daniel, Hayden George, River St., Maclean, 3C. Dey James, 96 Molesworth St., Lismore, 4C. (F.N.).
 Duncan, Allan Robertson, Molesworth St., Lismore, 4C. (F.N.). B.D.S. (Syd.).
 Freburn, Brian, Main St., Murwillumbah, 4C. (F.N.).
 Hayley, Lindsay Foxton, 95 Molesworth St., Lismore, 4C. (F.N.). B.D.S. (Syd.).
 Hume, William Kendal, Walker St., Casino, 4C. (F.N.). B.D.S. (Syd.). D.D.S. (Tor.).
 Hutchison, Mervyn James Hugh, Through St., South Grafton, 3C.
 McLachlan, John McKenzie, 134 Victoria St., Grafton, 3C.
 Madden, Thomas William, Moon St., Ballina, 4C. (F.N.). B.D.S. (Syd.).
 Maunder, Keith Norman, Main St., Maclean, 3C. B.D.S. (Syd.).
 Marchant, John Hewa, C/o. C. Booth, Star Court Arcade, Lismore, 4C. B.D.S. (Syd.).
 Mylchreest, Henry William, 50 Through St., South Grafton, 3C.
 O'Neill, Patrick Joseph, Marvel St., Byron Bay. B.D.S. (Syd.).
 Page, Beauchamp Joseph, 57a Prince St., Grafton, 3C. B.D.S. (Syd.).
 Pearson, Trevor Thomas, 84 Molesworth St., Lismore, 4C. (F.N.). B.D.S. (Syd.).
 Rowe, Donald Kirkpatrick, 137 Prince St., Grafton, 3C. B.D.S. (Syd.).
 Ryan, James Joseph, Box 50, Casino, 4C. (F.N.).
 Savage, Miss Anne Phillipa, 104 Fitzroy St., Grafton, 3C. B.D.S. (Syd.).
 Scotton, Warren Henry, 27 Prince St., Grafton, 3C. B.D.S. (Syd.).
 Shand, Henry Walcott Warner, 104 Molesworth St., Lismore, 4C. (F.N.). B.D.Sc. (Q'ld).
 Shay, William Aloysius, P.O. Box 54, Mullumbimby, 4C. (F.N.). B.D.Sc. (Q'ld).
 *Smith, Alan, 105 Pound St., Grafton, 3C.
 Smith, William Edward, Box 54, Mullumbimby, 4C. (F.N.).
 Spence, George, T. & G. Bldg., Woodlark St., Lismore, 4C.
 Waterer, Frederick John, Tweed Arcade, Murwillumbah, 4C. B.D.S. (Syd.).
 Weaver, Theophilus Lynne, Kyogle Rd., Kyogle, 4C. (F.N.). B.D.S. (Syd.).

NEWCASTLE AND HUNTER RIVER DISTRICT
DIVISIONAL AREA.

Alexander, Ernest Arthur, 99½ Tudor St., Hamilton, 2N. (N.H.R.).
 Armstrong, Robert Frederick, 101 Blackwall Rd., Woy Woy, 1N. B.D.S. (Syd.).
 Armstrong, Stanley William George, Melbourne St., East Maitland, 3N. (N.H.R.).
 Arnold, John Pierre, Maitland Rd., Mayfield, 2N. (N.H.R.). B.D.S. (Syd.).
 Bate, Ernest Berkeley, Berkeley St., Stroud, 1C. (N.H.R.).
 Bell, Henry Dixon, 16a Bolton St., Newcastle, 2N. (N.H.R.).
 Boddy, Ian Arthur, C/o. R. H. Lanceley, Muswellbrook, 3N. B.D.S. (Syd.).
 Bourke, Kevin John, Dowling St., Dungog, 1C. (N.H.R.). B.D.S. (Syd.).
 Bruene, Frank Batman, 207 Hunter St., Newcastle, 2N. (N.H.R.). B.D.S. (Syd.).
 Bruce, Robert Hay, A.M.P. Chambers, Hunter St., Newcastle, 2N. (N.H.R.). B.D.S. (Syd.).
 Capper, Brian, 64 Queens Rd., New Lambton, 2N. (N.H.R.). B.D.S. (Syd.).
 Carroll, Roy, 267 Hunter St., Newcastle, 2N. (N.H.R.). B.D.S. (Syd.).
 Carroll, William Reginald, 131 Mann St., Gosford, 1N. (N.H.R.).
 Champion, Ben William, A.M.P. Chambers, Hunter St., Newcastle, 2N. (N.H.R.). D.D.Sc. (Syd.).
 Charlston, John Thomas, 362 High St., West Maitland, 3N. (N.H.R.).
 Christy, Bruce John, 111 Vincent St., Cessnock, 3N. (N.H.R.). B.D.S. (Syd.).
 Clarke, Frank William Thorn, Hunter St. and Wheeler Place, Newcastle, 2N. (N.H.R.).
 Cole, George Stephen, 16a Bolton St., Newcastle, 2N. (N.H.R.).
 Cosier, Laurence Elwyn, 221 John St., Singleton, 3N. (N.H.R.).
 Cowing, Harold Thomas, 151 Kelly St., Scone, 4N. (N.H.R.).
 Crawford, Jack Melliwaith, 292 Gosford Rd., The Entrance, 1N. (N.H.R.).
 Cusick, Alton Richard, Royal Newcastle Hospital, Newcastle, 2N. B.D.S. (Syd.). D.D.S. (N.U.).
 Drew, John Francis, Kelly St., Scone, 4N. (N.H.R.).
 Durham, Geoffrey Norman, 39 High St., East Maitland, 3N. B.D.S. (Syd.).
 Dyson, Bruce Crosby, 428 Maitland Rd., Mayfield, 2N. (N.H.R.). B.D.S. (Syd.).
 Easthope, Douglas William, 229 Hunter St., Newcastle, 2N. B.D.S. (Syd.).
 Ellis, Oswald George, 42 Freyberg St., New Lambton, 2N. B.D.S. (Syd.).
 Emanuel, Trevor Louis, Munroe, Donald's Bldgs., Tudor St., Hamilton, 2N. (N.H.R.). B.D.S. (N.Z.).
 Galpin, Cedric Racine, Central Chambers, 429 High St., West Maitland, 3N. (N.H.R.).
 Gibson, Glenlyn James, Cnr. Glebe Rd. & Morgan St., Adamstown, 2N. B.D.S. (Syd.).
 Goodman, Walter Edward, Port Stephens St., Raymond Tee, 2N. (N.H.R.).
 Hickey, Francis Adrian, Flat 2, "York Flats", York St., Gosford, 1N. B.D.S. (Syd.).
 Hogg, George Henry, C.M.L. Chambers, 72 Hunter St., Newcastle, 2N. (N.H.R.).
 Hughes, Frederick Augustus, Beaumont St., Hamilton, 2N. (N.H.R.).
 Johns, Austin Elvin, Mann St., Gosford, 1N. (N.H.R.). B.D.S. (Syd.).
 Johnson, Alan William, 270 Main Rd., Belmont, 2N. (N.H.R.). B.D.S. (Syd.).
 Jonas, Roy Aldous, Bridge St., Muswellbrook, 3N. (N.H.R.).
 Jones, Maxwell Arthur Lloyd, John St., Singleton, 3N. (N.H.R.). B.D.S. (Syd.).
 Karpin, Louis, Cnr. Hunter and Wolfe Sts., Newcastle, 2N. (N.H.R.). B.D.S. (Syd.). D.D.S. (Tor.).
 King, Wallace Robert Oliver, 109 The Boulevard, Toronto, 2N. B.D.S. (Syd.).
 Krauss, Reginald, Bolton St., Newcastle, 2N. (N.H.R.).
 Lanceley, Robert Herbert, Muswellbrook, 3N. (N.H.R.). B.D.S. (Syd.).

*Restricted member.

†Qualified member.

‡Modified leave of absence.

Langham, Raymond Clarence, 169 Hunter St., Newcastle, 2N. (N.H.R.).

Larkin, Augustus William, 130 Maitland Rd., Mayfield, 2N. (N.H.R.).

Larkin, John Thomas, 250 Hunter St., Newcastle, 2N. (N.H.R.).

Longworth, Miss Isabel Frances, 17 Maitland Rd., Mayfield, 2N. (N.H.R.).

Macanish, John Donald, Royal Newcastle Hospital, Newcastle, 2N. B.D.S. (Syd.).

McGee, Grahame Andrew, Cnr. Ocean View & Wharf Rds., Ettalong, 1N. B.D.S. (Syd.).

McKenzie, Hector George, 5 York St., Gosford, 1N. (N.H.R.).

McNaughton, Ian Arthur, Chelmsford Hotel, Kurri Kurri, 3N. (N.H.R.). B.D.S. (Syd.).

Mobbs, Richard Leslie, A.P.A. Chhs., 403 Hunter St., Newcastle, 2N. (N.H.R.). B.D.S. (Syd.).

Newton, Cyril Vincent, Hunter St., Newcastle, 2N. (N.H.R.). B.D.S. (Syd.).

Officer, John Richard, Dowling St., Dungog, 1C. (N.H.R.). B.D.S. (Syd.).

Pearley, William Shirley, 275a Hunter St., Newcastle, 2N. (N.H.R.). D.D.S. (N.U.).

Reynolds, Cecil David, Corona Bldg., Hunter St., Newcastle, 2N. (N.H.R.).

Reynolds, Derek Lionel Thurston, Corona Bldg., 275a Hunter St., Newcastle, 2N. (N.H.R.). B.D.S. (Syd.).

Robson, John Johnson, Beaumont St., Hamilton, 2N. (N.H.R.).

Ryan, Desmond Augustine, A.B.C. Chambers, Singleton, 3N. (N.H.R.). B.D.S. (Syd.).

Sayers, Frederick Albert Roy, 254 Gosford Rd., The Entrance, 1N. (N.H.R.).

Scott Daisley, Gordon, Nelson St., Wallsend, 2N. B.D.S. (Syd.).

Scott Daisley, Harold, Nelson St., Wallsend, 2N. Simpson, Colin Wallace, C/o P.O. Gosford, via Wyong, 1N.

Sizer, Keith William, 139 Parkway Av., Hamilton, 2N. (N.H.R.). B.D.S. (Syd.).

Skinner, Herbert Arthur, 188 Maitland Rd., Mayfield, 2N. (N.H.R.). B.D.S. (Syd.).

Solomon, Geoffrey Richard, A.M.P. Chambers, Hunter St., Newcastle, 2N. (N.H.R.). M.D.S. (Syd.).

Talty, Joseph Patrick, C.M.I. Bldg., 72 Hunter St., Newcastle, 2N. (N.H.R.). B.D.S. (Syd.).

Thomas, Jack, Corona Bldgs., Hunter St., Newcastle, 2N. (N.H.R.). B.D.S. (Syd.). D.D.S. (Tor.).

Todhunter, James William, Hunter St., Newcastle, 2N. (N.H.R.). B.D.S. (Syd.).

Treacy, Dennis Edward, Commercial Bank Chambers, Cessnock, 3N. (N.H.R.). B.D.S. (Syd.).

Walker, Vincent Anthony, 47 Mitchell St., Stockton, 2N. (N.H.R.). B.D.S. (Syd.).

Walkley, Harry Charles, Bank of N.S.W. Chambers, Bank Cnr., Newcastle, 2N.

Watson, Maxwell Charles Russell, 32 Belford St., Broadmeadow, 2N. (N.H.R.).

Wells, Albert Edmund, 687 Hunter St., Newcastle, 2N. (N.H.R.).

Wood, Bruce Parma, Box 41, West Maitland, 3N. (N.H.R.). B.D.S. (Syd.).

Wright, Clement Hamilton, 471 High St., West Maitland, 3N. (N.H.R.).

Wright, Robert Waterford, 45 Hunter St., Newcastle, 2N. (N.H.R.). M.D.S. (Syd.).

NORTH AND NORTH WEST DIVISIONAL AREA

Agnew, Randolph Langley, Box 288, P.O., Tamworth, 4N. (N.N.W.).

Ahern, Gerald John, Box 36, Inverell, 5N. (N.N.W.). B.D.S. (Syd.).

Alcock, David Leslie, George St., Quirindi, 4N. (N.N.W.). B.D.S. (Syd.).

Bell, David Livingstone, Box 103, Coonabarabran, 6W. B.D.S. (Syd.).

Bennett, Orwell, Brisbane St., Tamworth, 4N. (N.N.W.).

Benson, John Douglas, Beady St., Armidale, 5N. (N.N.W.). B.D.S. (Syd.).

Boschier, Thomas Henry, 65 Marquis St., Gunnedah, 6N. (N.N.W.). B.D.S. (Syd.).

Broadbent, Brian Gordon, Bank of N.S.W. Chambers, Brisbane St., Tamworth, 4N. (N.N.W.). M.D.S. (Syd.).

Brodie, John, Bank of N.S.W. Chambers, Brisbane St., Tamworth, 4N. (N.N.W.). B.D.S. (Syd.).

Calcott, Herbert Willis, Hill St., Uralla, 5N. (N.N.W.).

Campbell, Albert Andrew, Box 40, Gunnedah, 6N. (N.N.W.). B.D.S. (Syd.).

Clark, Alan, P.O. Box 81, Moree, 7N. (N.N.W.). B.D.S. (Syd.).

Cohen, Aubrey Lewis, A.M.P. Chambers, 314 Peel St., Tamworth, 4N. (N.N.W.). B.D.S. (Syd.). D.D.S. (N.U.).

Cook, Reginald Dudley, Box 171, P.O., Tamworth, 4N. B.D.S. (Syd.). D.D.S. (Tor.).

Cooke, Graham Goude, Rouse St., Tenterfield, 5N. B.D.Sc. (Q'ld).

Cooke, Pearce Goude, Rouse St., Tenterfield, 5N. (N.N.W.). B.D.Sc. (Q'ld).

Crocker, Thomas Lister, Heber St., Moree, 7N. (N.N.W.).

Day, Frederick William Henry, Bolaroo St., Dunedoo, 6W. (N.N.W.).

Donald, George Samuel, Merton St., Boggabri, 6N. (N.N.W.). B.D.S. (Syd.).

Downes, Warren Kevin, Heber St., Moree, 7N. (N.N.W.). B.D.S. (Syd.).

Fones, Harold George, John St., Coonabarabran, 6W. (N.N.W.).

Hall, Harry Richard, Box 232, Inverell, 5N. (N.N.W.). B.D.S. (Syd.).

Hallinan, Laurence Thomas, 348 Peel St., Tamworth, 4N. B.D.S. (Syd.).

Harvey, William John, 137 Beady St., Armidale, 5N. (N.N.W.). B.D.S. (Syd.).

Heard, Charles Robert, Walgett, 6N. B.D.S. (Syd.).

Hudson, Reginald William, Guyra, 5N. (N.N.W.).

Hunt, Guy Langdon, Narrabri, 6N. (N.N.W.). B.D.S. (Syd.).

James, Frank Layton, 199 Conadilly St., Gunnedah, 6N. (N.N.W.). B.D.S. (Syd.).

Lyndon, William Morris, Royal Hotel, Glen Innes, 5N. (N.N.W.). B.D.S. (Syd.).

McBean, William Henry, Box 88, Armidale, 5N. (N.N.W.).

McConville, Leo Edward Joseph, 107 Faulkner St., Armidale, 5N. (N.N.W.). B.D.Sc. (Melb.).

Macgregor, John Warwick, Box 12, Quirindi, 4N. (N.N.W.).

Martin, Bryan Thomas, Commercial Bank of Syd. Bldgs., Tamworth, 4N. (N.N.W.). B.D.S. (Syd.). D.D.S. (Tor.).

Mulvogue, Fritz Hugh, (next P.O.), West Tamworth, 4N. (N.N.W.).

Mussett, Francis Wilfred, C/o F. C. Weir, Derby St., Walcha, 5N. (N.N.W.). B.D.S. (Syd.).

Newman, Robert William, Brisbane St., Tamworth, 4N. (N.N.W.).

Noble, Harold Alexander Davidson, P.O. Box 5, Warialda, 7N. (N.N.W.). B.D.S. (Syd.).

Northeott, Harry Hunter, Otho St., Inverell, 5N. (N.N.W.). B.D.S. (Syd.).

Northeott, John Stanley, Otho St., Inverell, 5N. (N.N.W.). B.D.S. (Syd.). D.D.S. (N.U.).

Pearson, John Hayton, Rouse St., Tenterfield, 5N. (N.N.W.). B.D.Sc. (Q'ld).

Petherick, Edward John, Rouse St., Tenterfield, 5N. (N.N.W.).

Pogson, Stanley John, 102 Maitland St., Narrabri, 6N. (N.N.W.). B.D.S. (Syd.).

Pringle, William Alexander, P.O. Box 60, Barbra, 4N. (N.N.W.).

Sinfield, Havelock Oswald George, Wentworth St., Glen Innes, 5N. (N.N.W.).

Smith, Esmond Clifton, Box 124, Inverell, 5N. (N.N.W.). B.D.S. (Syd.). D.D.S. (Tor.).

Spence, Ian, Walcha, 5N. (N.N.W.). B.D.S. (Syd.).

Steenbom, Leopold Cecil, C.B.A. Chambers, 348 Peel St., Tamworth, 4N. (N.N.W.). B.D.S. (Syd.).

Stevenson, Eric, Box 121, Glen Innes, 5N.

Wall, Joseph Hart, 165 Maitland St., Narrabri, 6N. (N.N.W.).

*Restricted member.

†Qualified member.

‡Modified leave of absence.

Wooler, Alfred Roy Joseph, Beady St., Armidale, 5N. (N.N.W.). B.D.S. (Syd.).
 Yates, Albert Henry, Box 50, Glen Innes, 5N. (N.N.W.).

NORTH EASTERN DIVISIONAL AREA.

Berry, John Warren, Box 120, P.O., Taree, 1C. (N.E.). B.D.S. (Syd.).
 Black, James Arthur, Box 50, Macksville, 2C. (N.E.).
 Blenkin, Charles Hubert, Bent St., Wingham, 1C. (N.E.).
 Christy, Adrian de Horne, Horton St., Port Macquarie, 2C. (N.E.). B.D.S. (Syd.).
 Cooper, Audley John, Hyde St., Bellingen, 2C. (N.E.).
 *Cope, Norman, Little St., Forster, 1C.
 Craig, Douglas Cranstone, Box 101, Coff's Harbour, 2C. (N.E.). B.D.S. (Syd.).
 Edmonds, William Henry, Box 5, Kempsey, 2C. (N.E.).
 Gaudry, James Frederick Anthony, Box 14, P.O., Port Macquarie, 2C. (N.E.). B.D.S. (Syd.).
 Hadden, Francis Cuthbert, Taree, 1C. (N.E.).
 Harrop, Charles Bishop, 65 Church St., Gloucester, 1C. (N.E.). B.D.S. (Syd.).
 Johnson, Adrian Paul, 57 Hastings St., Wauchope, 2C. (N.E.). B.D.S. (Syd.).
 McBean, Albert James, Smith St., Kempsey, 2C. (N.E.).
 McInerney, Miss Mary Ellen, Hyde St., Bellingen, 2C. (N.E.).
 Morris, Roger Leonard, Smith St., Kempsey, 2C. (N.E.). B.D.S. (Syd.).
 Neal, Albert Victor, 222 Victoria St., Taree, 1C. (N.E.). B.D.S. (Syd.).
 Neal, Harold Sydney, Isabella St., Wingham, 1C. (N.E.). B.D.S. (Syd.).
 Neal, Marshall Stanley, 224 Victoria St., Taree, 1C. (N.E.). B.D.S. (Syd.).
 Neal, Sydney Horace, 222 Victoria St., Taree, 1C. (N.E.).
 Nevell, William Vincent, Edinborough St., Coff's Harbour Jetty, 2C. (N.E.). B.D.S. (Syd.).
 Paul, Dugald Rex, High St., Wauchope, 2C. (N.E.).
 Riddell, Roy Gordon, High St., Coff's Harbour, 2C. B.D.Sc. (Q'ld).
 Ruprecht, George Alfred, 159 Manning St., Taree, 1C. (N.E.).
 Swan, Alan George, Smith St., Kempsey, 2C. (N.E.). B.D.S. (Syd.).
 Ulrick, Milton Charles, Box 30, Macksville, 2C. B.D.S. (Syd.).
 Wolfe, Robert Rourke, Bellingen, 2C. (N.E.).
 Young, Brian Neill, Cudgery St., Dorrigo, 2C. (N.E.). B.D.S. (Syd.).

SOUTHERN DIVISIONAL AREA.

Albott, Richard Henry, Ulong St., Griffith, 5S. (S.). B.D.S. (Syd.).
 Ainsworth, Eric Charles, T. & G. Bldg., 76 Fitzmaurice St., Wagga Wagga, 3S. (S.).
 Blakeney, John Gerard, Wynyard St., Tumut, 7S. (S.). B.D.S. (Syd.).
 Broughton, Archer, Wynyard St., Tumut, 7S. (S.). B.D.S. (Syd.).
 Brown, Douglas Ian Frew, Wade Av., Leeton, 6S. (S.). B.D.S. (Syd.).
 Chapman, Edgar Mortlock, P.O. Box 39, Temora, 5S. (S.).
 Christopher, Donald Ewan, 47 Cressy St., Deniliquin, 6S. (S.). B.D.Sc. (Melb.).
 Coates, Barry Arthur, Box 147, Wagga Wagga, 3S. (S.). B.D.S. (Syd.).
 Cox, Gordon Mott, 182 Baylis St., Wagga Wagga, 3S. (S.).
 Digby, Warren Fraser, Ivor St., Henty, 3S. B.D.S. (Syd.).
 Douglas, Norman Campbell, 486 Dean St., Albury, 3S. B.D.S. (Syd.).
 Emmett, Frederick Lawrence, 19 Gurwood St., Wagga Wagga, 3S. (S.).
 Fitch, Joseph Charles, Hoskin St., Temora, 5S. (S.).
 Gibson, Frederick George, 29 Cooper St., Cootamundra, 2S. (S.).
 Grogan, Thomas Laidlaw, 8 Belmore St., Junee, 2S. (S.). B.D.S. (Syd.).

Hogarth, Donald Lloyd, 57 Cooper St., Cootamundra, 2S. (S.). B.D.S. (Syd.).
 *Howell, Miss Jill, "Chodborough," R.M.B. 129, Yenda, 3S. B.D.S. (Syd.).
 Jarrett, Frederick Robert, 612 Dean St., Albury, 3S. B.D.S. (Syd.).
 Kerfoot, Geoffrey, Fitzmaurice St., Wagga Wagga, 3S. (S.). B.D.S. (Syd.), D.D.S. (Tor.).
 Kinsela, Lewis Charles Pentreath, 73 Lynch St., Young, 3S. (S.). B.D.S. (Syd.).
 Kruger, Geoffrey Oscar, Neill St., Harden, 2S. (S.). B.D.S. (Syd.).
 Levens, Douglas James, 145 Sanger St., Corowa, 3S. (S.). B.D.Sc. (Melb.).
 Lyons, Clarence Athol Annis, East St., Narrandera, 6S. (S.). B.D.S. (Syd.).
 Macfarlane, Robert Alexander, Bolton St., Narrandera, 6S. (S.). B.D.S. (Syd.).
 McCook, John Hill, Tumbarumba, 3S. B.D.S. (Syd.).
 McCoy, John Medlyn, Box 11, Wagga, 3S. (S.). B.D.S. (Syd.).
 McTaggart, James Benedict, Sheridan St., Gundagai, 7S. B.D.S. (Syd.).
 Mahoney, William Francis, 191 Hoskins St., Temora, 5S. (S.).
 March, Reginald, Lynch St., Young, 2S. (S.). L.D.S. (Br.).
 Mason, Norman Wilfred, Burrows St., Young, 2S. (S.).
 Meldrum, Edgar Albert, River St., Corowa, 3S. (S.). B.D.S. (Syd.), D.D.S. (Tor.).
 Mills, Arthur Charles, Sheridan St., Gundagai, 7S. (S.). B.D.S. (Syd.).
 Miner, Clement Lyle, 10 Bank St., Hay, 6S. (S.).
 Molony, Ian Grant, Cowabbie St., Coolamon, 6S. (S.). B.D.S. (Syd.).
 Molony, Maxwell Eville, Neil St., Harden, 2S. (S.). B.D.S. (Syd.).
 Payten, Aubrey Harold, C.M.L. House, Dean St., Albury, 3S.
 Sagers, Gordon Francis, Ferrier St., Lockhart, 3S. (S.). B.D.S. (Syd.), D.D.S. (N.U.).
 Sertori, Joseph Lawrence, 62 Banna Av., Griffith, 5S. (S.). B.D.S. (Syd.), D.D.S. (Tor.).
 Sheldon, Alan Eric, C.W.A. Bldg., Berrigan, 6S. B.D.S. (Syd.).
 Smith, Peter Edwin, Box 104, Young, 2S. (S.). B.D.S. (Syd.).
 Stark, Lance Malvern, Dean St., Albury, 3S. (S.).
 Steel, James Sinclair, Cooper St., Cootamundra, 2S. (S.). B.D.S. (Syd.).
 Stenmark, James Ossian, C/o F. L. Emmett, 12 Gurwood St., Wagga Wagga, 3S. (S.). B.D.S. (Syd.).
 Stuart, John Norman, C/o W. F. Suhr, Kiewa St., Albury, 3S. B.D.Sc. (Melb.).
 Suhr, William Francis, Albury Chmbrs., Kiewa St., Albury, 3S. B.D.Sc. (Melb.).
 Taverney, John Louis, Dean St., Albury, 3S. (S.).
 Thomas, John Ingram, 11a Napier St., Deniliquin, 6S. (S.). B.D.S. (Syd.).
 Tooze, Albert Ernest, 41 Gurwood St., Wagga Wagga, 3S. (S.).
 Walsham, Hugh Crease, 12 Gurwood St., Wagga Wagga, 3S. (S.). L.D.S., R.C.S. (Eng.).
 Willis, Brian, P.O. Box 123, Hay, 6S. L.D.S. (Singapore).

SOUTH COAST DIVISIONAL AREA.

Blair, Kevin Matthew, C/o J. F. McGovern, Church St., Wollongong, 5C.
 Brixey, Harold Clive, Junction St., Nowra, 6C. (S.C.). B.D.S. (Syd.).
 Bruce, Arthur, Main Rd., Thirroul, 5C. (S.C.).
 Bruhn, George Maxwell, Box 94, Bega, 7C. (S.C.).
 Bush, Richard Belitho, P.O. Box 39, Bega, 7C. (S.C.). B.D.S. (Syd.).
 Chidley, Miss Marjorie Biden, C/o Dr. H. C. Maldon, 229 Crown St., Wollongong, 5C. (S.C.).
 Christmas, Hylton Yolland, Harrigan's Bldgs., Crown St., Wollongong, 5C. (S.C.).
 Christmas, John Franklin, 29 Berry St., Nowra, 6C. B.D.S. (Syd.).

*Restricted member.

†Qualified member.

‡Modified leave of absence.

Dawson, Barton Ernest, 82 Wentworth St., Port Kembla, 5C. (S.C.). B.D.S. (Syd.).
 Robinson, Ronald Joseph, C/o H. Y. Christmas, Crown St., Wollongong, 5C. (S.C.). B.D.S. (Syd.).
 Ryball, Robert John, 31 Keira St., Wollongong, 5C. (S.C.). B.D.S. (Syd.).
 Esdaille, Ronald Gordon, 39 Wentworth St., Port Kembla, 5C. (S.C.). B.D.S. (Syd.).
 Fisher, Norman Stanfield, Box 41, P.O. Bega, 7C. (S.C.). B.D.S. (Syd.).
 Fisher, William Henry, Carp St., Bega, 7C. (S.C.).
 Gubb, Ronald Albert, Fields Bldg., Princes Highway, Dapto, 6C. B.D.S. (Syd.).
 Hoek, Theodore Alexander, Box 27, Bega, 7C. (S.C.). B.D.S. (Syd.).
 King, John Emery, Manning St., Kiama, 6C. (S.C.).
 Kurt, Miss Hse Mary, C/o J. F. McGovern, Church St., Wollongong, 5C. (S.C.). B.D.S. (Syd.).
 McGovern, John Edward, 184 Crown St., Wollongong, 5C. (S.C.). B.D.S. (Syd.). D.D.S. (Tor.).
 McGovern, John Francis, Church St., Wollongong, 5C. (S.C.).
 Maguire, Derek William, 57 Moore St., Austinmer, 5C. B.D.S. (Syd.).
 Maldon, Harry Cleveland, 229 Crown St., Wollongong, 5C. (S.C.). B.D.S. (Syd.). D.D.S. (Tor.).
 Marshall, Ashton Roy G., 248 Crown St., Wollongong, 5C. (S.C.).
 Meldrum, Geoffrey Edgar, 67 Wentworth St., Port Kembla, 5C. (S.C.). B.D.S. (Syd.).
 Meldrum, Thomas Alfred, 201a Princes Highway, Bulli, 5C. L.D.S., R.C.S. (Eng.).
 Morton, Peter, C/o C. W. Stone, Crown St., Wollongong, 5C. B.D.S. (Syd.).
 Newton, Bertie Harold, 203 Prince's Highway, Woonona, 5C. (S.C.).
 Oddy, James Dick, St. John's Av., Woodlawn, Wollongong, 5C. (S.C.). B.D.S. (Syd.). D.D.S. (Tor.).
 Palmer, John Henry, 276 Crown St., Wollongong, 5C. (S.C.). B.D.S. (Syd.).
 Stone, Clarence William, Crown St., Wollongong, 5C. (S.C.). B.D.S. (Syd.).
 Sullivan, John, 54 Kinghorn St., Nowra, 6C. (S.C.). B.D.S. (Syd.).
 Turner, William Ernest, Raymond, 128 Main Rd. Thirroul, 5C. (S.C.).
 Yeo, Laurence Trevelyn Trimmer, Princes Highway, Milton, 6C.

SOUTHERN TABLELANDS DIVISIONAL AREA.

Barnes, John Finlay McGregor, P.O. Box 6, Manuka, Canberra, A.C.T., 48. (S.T.). B.D.S. (Syd.).
 Bay, Max, 190 Bourke St., Goulburn, 28. B.D.S. (N.Z.).
 Collin, Leonard Basil, Bong Bong St., Bowral, 18. (S.T.).
 Collins, John David, E.S.A. Bank Chmbrs., Montague St., Goulburn, 28. B.D.S. (Syd.).
 Collopy, Francis James, 76 Cooma St., Yass, 28. (S.T.). B.D.S. (Syd.).
 Cooper, Lionel, Fallicks Bldg., Monaro St., Queanbeyan, 48. (S.T.).
 Crocker, Kenneth John, 405 Argyle St., Moss Vale, 18. (S.T.). B.D.S. (Syd.).
 Currie, Ian Alexander George, Community Hospital, Canberra, A.C.T., 48. (S.T.). B.D.Sc. (Melb.).
 Dabbs, Francis Herbert W., Cooma St., Yass, 28. (S.T.).
 Davidson, Peter Maurice, Wingecarribee St., Bowral, 18. (S.T.).
 Denney, David John, 20 George St., Goulburn, 28. (S.T.).
 Denney, John Kinley, 20 George St., Goulburn, 28. B.D.S. (Syd.).
 Dobbin, Sydenham, 76 Cooma St., Yass, 28. B.D.S. (Syd.).
 Duross, Brian James, Melbourne Bldgs., City, Canberra, A.C.T., 48. (S.T.). D.D.S. (Tor.). L.D.S., R.C.S. (Eng.).
 Finch, Arthur Ernest, Bong Bong St., Bowral, 18. (S.T.).

Fisher, Keith Reginald, 196 Bourke St., Goulburn, 28. (S.T.). B.D.S. (Syd.).
 Golding, John Hamilton, A.M.P. Chambers, Auburn St., Goulburn, 28. (S.T.). B.D.S. (Syd.).
 Halliday, Edward John, 50 Ryrie St., Braidwood, 48. B.D.S. (Syd.).
 Hamilton, Malcolm Graham, 284 Argyle St., Moss Vale, 18. (S.T.). B.D.S. (Syd.).
 Hedberg, Douglas Rodney, 37 Merrigang St., Bowral, 18. (S.T.). B.D.S. (Syd.).
 Hoosh, Mark Albert, Fallicks Bldg., Monaro St., Queanbeyan, 48. B.D.S. (Syd.).
 Hewett, Leon Robert, Sharp St., Cooma, 48.
 Hunt, John Bruce, Dudley's Bldgs., Monaro St., Queanbeyan, 48. B.D.S. (Syd.).
 Keating, Brian, C.M.L. Bldg., Auburn St., Goulburn, 28. B.D.S. (Syd.).
 Knight, Noel Neville Charles, C/o L. Marshall, Civic Centre, Canberra, A.C.T., 48. (S.T.). B.D.S. (Syd.).
 Locke, Austin Thomas, 209 Auburn St., Goulburn, 28. (S.T.).
 MacCulloch, Reginald Douglas Dryden, E.S. & A. Bank Chmbrs., Montague St., Goulburn, 28. (S.T.). B.D.S. (Syd.). D.D.S. (N.U.).
 McCrossin, Robert Hugh, Goulburn St., Crookwell, 48. B.D.S. (Syd.).
 Marshall, Lancelot William, Northbourne Av., City, Canberra, A.C.T., 48. (S.T.). B.D.Sc. (Melb.).
 Morris, John Fosbrook, Maybe St., Bombala, 7C. (S.T.). B.D.S. (Syd.).
 Murray, Clive Templeton Preston, 230 Auburn St., Goulburn, 28. (S.T.). B.D.S. (Syd.).
 Noble, Ian Stuart, 165 Sharp St., Cooma, 48. (S.T.). M.D.S. (Syd.).
 Parbery, Norman Francis, Box 3, Kingston, Canberra, A.C.T., 48.
 Reilly, James Beade, Melbourne Bldgs., Civic Centre, Canberra, A.C.T., 48. (S.T.). B.D.S. (Syd.).
 Robertson, James Albert Gordon, Box 45, P.O. Crookwell, 48. (S.T.). B.D.S. (Syd.).
 Smith, Neville Henry Hedges, 190 Bourke St., Goulburn, 28. B.D.S. (Syd.).
 *Traill, Francis Windeyer, "Mimosa," Bowral, 18. B.D.S. (Syd.). D.D.S. (Penn.).
 Waters, Herbert Henry, Pudman St., Boorowa, 28. (S.T.).

WESTERN DIVISIONAL AREA.

Austin, Adrian Norman, 43 Anson St., Orange, 3W. B.D.S. (Syd.).
 Bartlett, John Christopher, 187 George St., Bathurst, 3W. B.D.S. (Syd.).
 Bible, Thomas Trevor, 79 Macquarie St., Cowra, 3W. (W.).
 Blackwell, David Wellesley, 58 Anson St., Orange, 3W. B.D.S. (Syd.).
 Boyd, J. Harold Thompson, Canowindra, 3W. (W.).
 Bradford, Harold Paterson, Box 166, Dubbo, 4W. (W.). B.D.S. (Syd.). D.M.D. (Harv.).
 Brady, Miss Mary Loretto, Summer St., Orange, 3W. (W.).
 Brown, Geoffrey Hall, 292 Clarinda St., Parkes, 7W. (W.). B.D.S. (Syd.).
 Burrows, Harrie Teynam, 46 Anson St., Orange, 3W. (W.).
 Burtinshaw, John Ernest, Main St., Grenfell, 3W.
 Campbell, Kenneth, 48 Templar St., Forbes, 7W. (W.). B.D.S. (Syd.).
 Carter, Robert, The Square, Parkes, 7W. (W.). B.D.S. (Syd.).
 Challoner, Fred, Macquarie St., Dubbo, 4W. (W.).
 Connellan, James Bernard Patrick, 14 Market St., Mudgee, 6W. (W.). B.D.S. (Syd.).
 Croker, William Maitland, Aberford St., Coonamble, 4W. (W.). B.D.S. (Syd.).
 Dalziel, Alexander Charles, 46 Anson St., Orange, 3W. (W.). B.D.S. (Syd.).
 Da Roza, Manuel Augustus, William St., Bathurst, 3W. B.D.S. (Syd.).
 Dent, George Raymond, 58 Anson St., Orange, 3W. (W.). B.D.S. (Syd.). D.D.S. (Tor.).

*Restricted member.

*Qualified member.

§Modified leave of absence.

Edwards, Rupert Stuart, 101 Kendal St., Cowra, 3W. (W.). B.D.S. (Syd.).
 Farrow, John Milne, Kendal St., Cowra, 3W. (W.). B.D.S. (Syd.).
 Finn, John Joseph, Caswell St., Peak Hill, 7W. (W.). B.D.S. (Syd.).
 Goodman, Alfred John, Church St., West Wyalong, 5S. (W.). B.D.S. (Syd.).
 Gouvernet, Paul Jules, 20 Swift St., Wellington, 4W. (W.).
 Gover, John Edward, Main St., West Wyalong, 5S. (W.).
 Grattan, John Edward, Burton St., Warren, 4W. (W.). B.D.S. (Syd.).
 Griffin, Leslie William, Mayne St., Gulgong, 6W. (W.). B.D.S. (Syd.).
 Hall, Cyril Duncan, A.B.C. Chambers, Dubbo, 4W. (W.). B.D.S. (Syd.).
 Harcus, James Norman, 36 Court St., Parkes, 7W. (W.). B.D.S. (Syd.).
 Harris, Allan George, 141 Lachlan St., Forbes, 7W. (W.). B.D.S. (Syd.).
 Hayes, Kevin Vincent, Water St., Blayney, 3W. B.D.S. (Syd.).
 Hewlett, Gordon Spence, 195 George St., Bathurst, 3W. (W.).
 Horley, Allan Alfred Brennan, Macquarie St., Cowra, 3W. (W.). B.D.S. (Syd.).
 Hume, Leslie Bruce, Gidley St., Molong, 7W. (W.). B.D.S. (Syd.).
 Irvine, Kenneth James, Century Chbs., Church St., Dubbo, 4W. (W.).
 McEwen, Kenneth Bruce, 101 William St., Bathurst, 3W. (W.). B.D.S. (Syd.).
 McMahon, Sydney Brian, Dandaloo St., Narromine, 4W. (W.). B.D.S. (Syd.).
 May, John Joseph, Bathurst St., Condobolin, 7W. (W.). B.D.S. (Syd.).
 Meldrum, James Walker, "Harley," Anson St., Orange, 3W. (W.). B.D.S. (Syd.), D.D.S. (Tor.).
 Moon, Keith George, 195 George St., Bathurst, 3W. (W.). B.D.S. (Syd.).
 Moir, Sydney James, Lorne St., Lake Cargelligo, 5S.
 Morgan, Thomas Kerin, 40 Templar St., Forbes, 7W. (W.). B.D.S. (Syd.).
 Morris, Richard Henry, 32 Marshall St., Cobarr, 5W. B.D.S. (Syd.).
 Quill, John, Gaskell St., Canowindra, 3W. (W.). B.D.S. (Syd.).
 Richardson, Alexander T., Church St., Dubbo, 4W. (W.).
 Robertson, Alfred Robert Bell, Castlereagh St., Coonamble, 4W. (W.).

Rushton, Ernest George, Main St., West Wyalong, 5S. (W.).
 Seaberg, Claud Alexander, Clarinda St., Parkes, 7W. (W.).
 Seaberg, John Alexander, Broad St., Eugowra, 3W. B.D.S. (Syd.).
 Thomas, Bruce Edward, 14 Church St., Mudgee, 6W. (W.).
 Veroli, John Luigi, Miller St., Gulgong, 4W. (W.).
 Wall, Darrel Keith, Wellington, 4W. (W.). B.D.S. (Syd.).
 Williams, Thomas Stanley, Grenfell, 3W. (W.).
 Williamson, Alexander, Lord's Place, Orange, 3W. (W.).

COUNTRY MEMBERS OUTSIDE DIVISIONAL AREAS.

Arthy, David Henry, 175 Argyle St., Camden, 1S. B.D.S. (Syd.).
 Benson, Peter Ernest, Livingstone Rd., Ingleburn, 1S. B.D.S. (Syd.).
 Burne, Alfred Dangar, Observation Point, Barrenjoey Rd., Palm Beach, B.D.S. (Syd.), D.D.S. (Chic.C.D.).
 Chernich, Desmond John, Queen St., Campbelltown, 1S.
 Clark, John Francis, Broken Hill Mines Dental Clinic, Broken Hill, 7W. B.D.S. (Adl.).
 *Hardie, Martyn George, "Chandos", Palmerston Av., Dromana, Vic.
 Harrison, Ainsworth, Sandwyck St., Wentworth, 3S.
 King, Edward Samuel, 233 Queen St., Campbelltown, 1S. B.D.S. (Syd.), D.D.S. (Tor.).
 Noble, Charles Davidson, 37 John St., Camden, 1S. B.D.S. (Syd.).
 †Orr, Timothy James, Royal Aust. Air Force, Officers' Mess, A. & G.R.S., Ballarat, Vic. B.D.S. (Syd.).
 Regan, Gregory Peter, Broken Hill Mines Dental Clinic, Broken Hill, 7W. B.D.S. (Syd.).
 Richardson, Cecil Edmund, 183 Newton St., Railway Town, Broken Hill, 7W.
 Ronald, Ian Douglas, 5 Medical Hall Chambers, Argent St., Broken Hill, 7W. B.D.S. (Adl.).
 Shanks, Peter, C/o Dental Clinic, Alice Springs, N.T. B.D.S. (Syd.).
 Sharp, Robert George, 6 R.A.A.F. Hospital, Laverton, Victoria, B.D.S. (Syd.).
 Willington, Alan David, 764 Hay St., Perth, W.A. B.D.S. (Syd.), D.D.S. (Tor.).

*Restricted member.

†Qualified member.

‡Modified leave of absence.

New Books and Publications

THE PORCELAIN JACKET CROWN, by S. Charles Brecker, St. Louis, 1951. C. V. Mosby Co. (263 pp., 290 illus.). Price 84s. *Our copy by courtesy of W. Ramsay (Surgical) Pty. Ltd.*

This is an essentially practical book dealing with the preparation of the teeth for porcelain jacket crowns.

The first five chapters deal with preparation of teeth, and the remaining three are devoted to the procedures after the preparation is completed, the shortcomings of the porcelain jacket crown, and porcelain bridges.

The fusing and the other laboratory procedures are not mentioned in this text as the author states in his preface that these aspects are important enough to warrant treatment under separate cover.

The main weakness in the porcelain jacket crown is in preparation and, in view of this, the author has given an excellent account of the variations in the preparation of teeth as influenced by their anatomic form, condition and position in the arch.

The book is well illustrated, showing the various steps being executed in the mouth.

This book should be read and studied by all who are interested in jacket crown restorations.—*N. D. Martin.*

YEAR BOOK OF DENTISTRY, 1951, Chicago, 1952. Year Book Publishers (512 pp., 347 illus.). Price \$5 (U.S.A.). *Our copy by courtesy of the publishers.*

This publication maintains the usual high standard set by previous volumes and covers recent advances in all fields: Diagnosis, Pathology, Caries, Public Health, Pedodontia, Orthodontics, Surgery, Operative and Prosthetic Dentistry. It is a most important book for the dentist who has little time or opportunity to read current overseas journals. A wide selection of both practical and theoretical aspects of dental science are reviewed and in most instances the editorial evaluation is very fair.

It is pleasing to see that a number of papers published in Australia have been included in this review which is largely confined to American periodical literature.—*N. D. Martin.*

BRITISH DENTAL ANNUAL, 1952, ed. by Evelyn Sprawson, London, 1952. Butterworth & Co. (Publishers) Ltd. (282 pp.). Price £2 12s. 6d. *Our copy by courtesy of the publishers.*

This new publication has been produced to fill the gap in "our British Dental Biblio-

graphy and supply the practising dental surgeon with a knowledge of what is going on in the way of professional advancement and methods," according to the Editor, Evelyn Sprawson.

The main criticism to be made is that there has been a disproportionate allocation of space to the various subjects reviewed, when the purpose of the book is considered.

The book contains 262 pages of text, 45 pages being devoted to abstracts without editorial comment as to the value or significance of the material being abstracted.

Only eight pages of text are devoted to oral surgery and pathology including local anaesthesia and chemotherapy, and only 15 pages to operative dental surgery embracing cavity preparation, pulp protection and therapy, filling materials, crown and bridgework, radiology and pedodontia. In contrast to this 12 pages are devoted to a technical discussion of radioactive isotopes, 19 pages to histochemical techniques and ground sections of the enamel, and 28 pages to the School and Priority Dental Services. This latter may be justified somewhat by the political situation in England at the present moment.

The section on full denture prosthesis is vague and covers very few of the recent advances. Furthermore, it answers none of the practical problems confronting the dentist. Partial denture design and construction are dealt with in an equally unsatisfactory way.

The section on preventive measures by G. J. Parfitt, of some 18 pages, is comprehensive but insufficient attention is given to the two main factors—sugar and fluoride—in dental caries control and the conclusions reached are vague, without positive recommendation.

In Part II, the information section, the cursory treatment of the five Australian Dental Schools contrasts with the detailed description of other institutions described. The University of Sydney also awards the degree of Doctor of Philosophy in Dentistry, which is omitted from this section.

In the abstract section the arrangement of the references to the abstracts is confusing. The full reference of the paper together with title and pagination would be more easily found if placed with the author's name at the commencement of each abstract.

This annual publication in its present form will not fill the needs of dental practitioners, particularly in those sections of the profession where American influence and techniques are predominant.—*N. D. Martin.*

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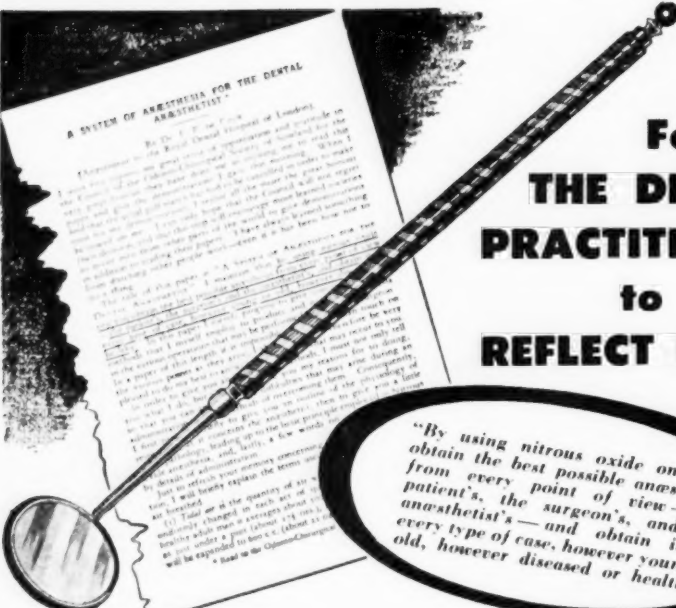
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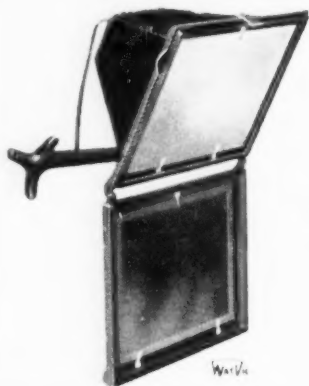
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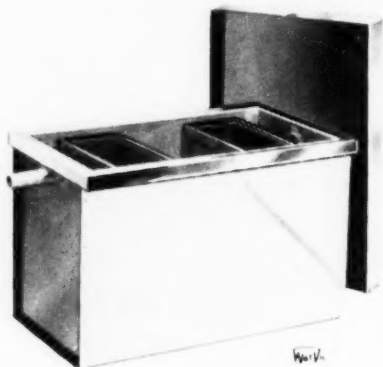
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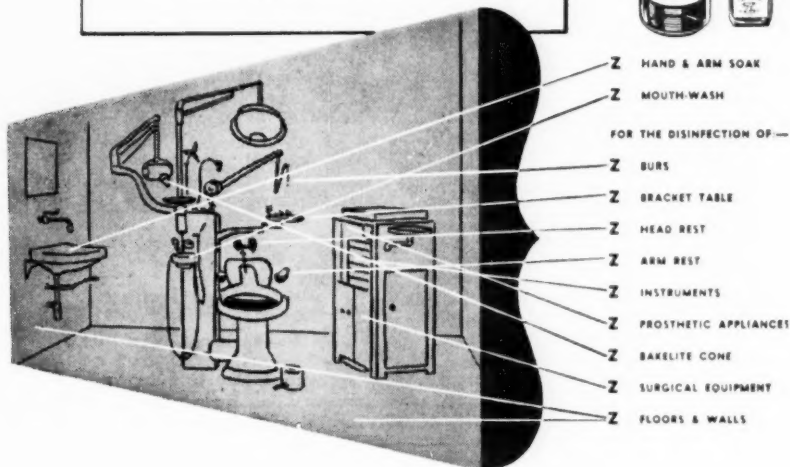
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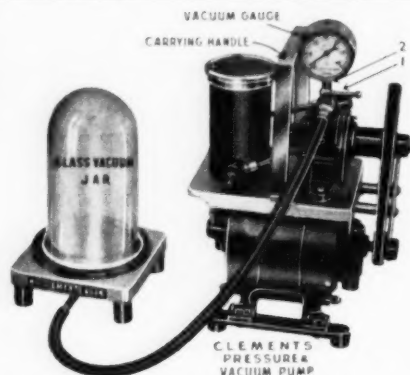
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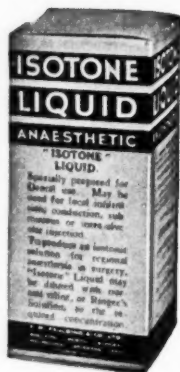
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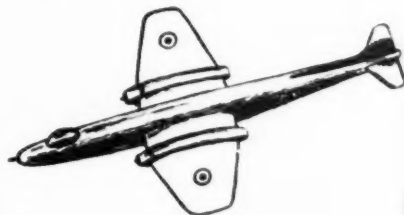
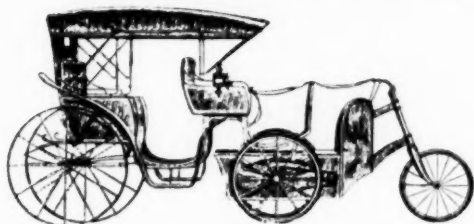
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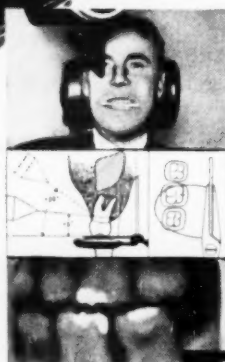
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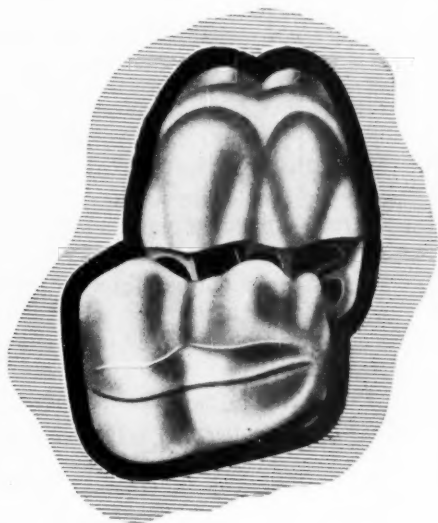
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Pharmatonin is the ideal anaesthetic for operations of average duration in dentistry and minor surgery.

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The Commonwealth Bureau of Dental Standards, Melbourne, testing results, confirm that "Pharmatonin complies with the requirements of the American Dental Association specification."

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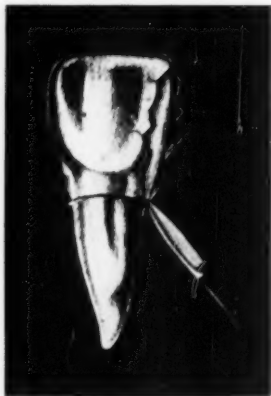
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